# Fantasy & Science Fiction

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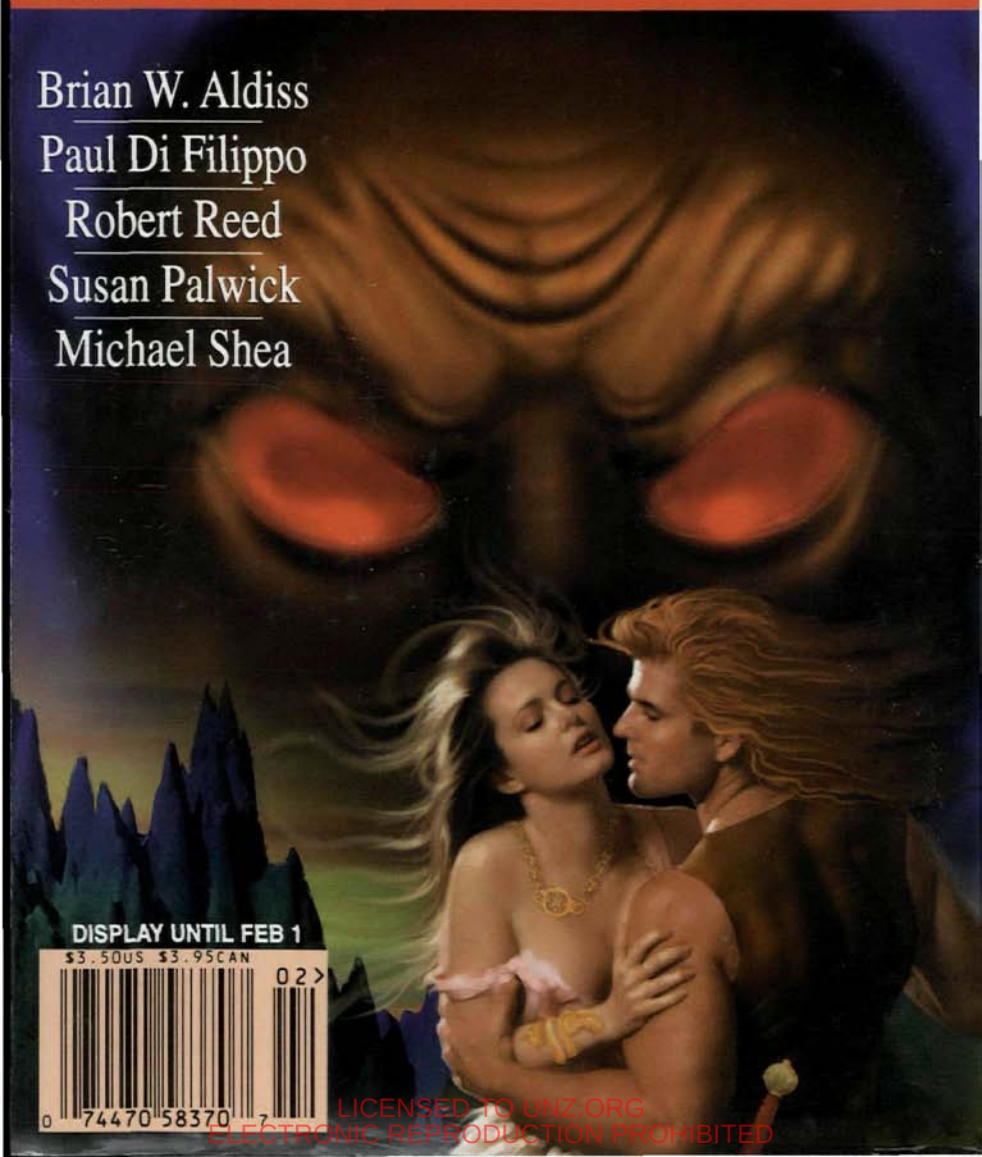

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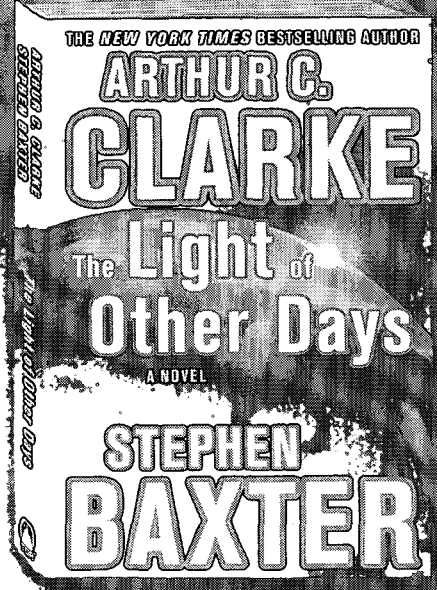


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THE MAGAZINE OF

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# EDITORIAL

## GORDON VAN GELDER

IN SEPTEMBER, I had the good fortune to travel to Australia for the World SF Convention and I did what I could to assess the state of fantastic fiction Down Under. I'm generally not one to issue convention reports, but I saw so much of interest during my trip that I thought I'd pass along some of my reflections on the best and worst of times in Oz.

The dynamic Jack Dann has begun calling this period a Golden Age in Australian sf and while I'll remain skeptical until I've read something I consider a masterpiece, I do believe the Aussie scene is very lively and growing rapidly. The major publishers all seem interested in fantasy and sf, and I picked up books by writers whose names you're likely to hear more of as time goes by, including Maxine McArthur, Kim Wilkins, Jim Shellens, and Juliet Marillier. One thing I noticed is that the Australian fans worry more about the distinctions between sf and fantasy than U.S. fans do—I got nostalgic for the 1970s and early '80s, when Americans used to argue whether various books were science fiction or not. The Australian small press is very lively and healthy, producing story collections and odd books. Long may they run.

It looked to me like Australian publishing largely follows America's lead. I suppose that's inevitable, given the size and economic strength of the U.S. market, but I'd still hoped to see more Australians marching to their own beat. The most disheartening panel was the one on "Is Horror Dead," which followed the same exact pattern of every such panel I've seen in the U.S.: (1) Yes, horror's dead unless your name is Koontz, King, or Rice; (2) well okay, there's a pulse somewhere — here are one or two other books and a handful of small presses that are active; (3) now let's talk about really neat horror movies

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we've seen. Maybe I shouldn't have hoped for the Australian market to differ much...but I did.

*Locus* editor Charles Brown later said to me that sf and horror are two genres (unlike fantasy) that have seen their strongest tropes taken over by Hollywood and now it's inevitable that the genre books should follow in the movies' wakes. I don't entirely agree, but I think he has a point.

My minimal observations of Australian publishing lead me to believe that it's healthy, given the size of the market, but the books themselves seemed to be more conservative—I didn't see a lot of high-risk publishing. From speaking with various editors, I got none of the feeling of running scared that their American counterparts seem to exude right now. However, my perceptions may well be skewed by the fact that I know many U.S. editors well enough to speak in confidence.

The panel on Australian fantasy made the biggest impact on me. The panelists mostly agreed that the Australian influences on their novels came largely via the landscape, and they generally concurred that they were working in a European tradition (particularly influenced by Tolkien and British traditions). One woman said she's an eighth-generation Australian, her ancestors came on the Second Fleet (which is like saying they arrived on the first boat after the *Mayflower*), and yet she feels her influences are more English than Australian. The writers seemed to be leery of attempting to address issues regarding the Aboriginals in their work. I got the sense that things may well change soon; as someone said from the audience, "I'd love to skip forward fifty years and see how things have changed."

I guess the panel on Australian fantasy resonated most with me because I'd been in Tasmania shortly before the convention, and to this traveler, the island resembled a fantastic kingdom: there were the bumbled battlements of Hobart's Battery Park, the cruel gaolers of Port Arthur, the strange-yet-familiar fauna, and landscapes unlike anything I've seen in either hemisphere. (And for those who like their fantasy kingdoms grittier, à la Viriconium, Tasmania's roads were rife with roadkill.) The Hobart Museum sported displays of beasts like the giant kangaroo and the probably-extinct Tasmanian wolf.

Surely all the makings for an imaginative novel or ten are there for the taking.

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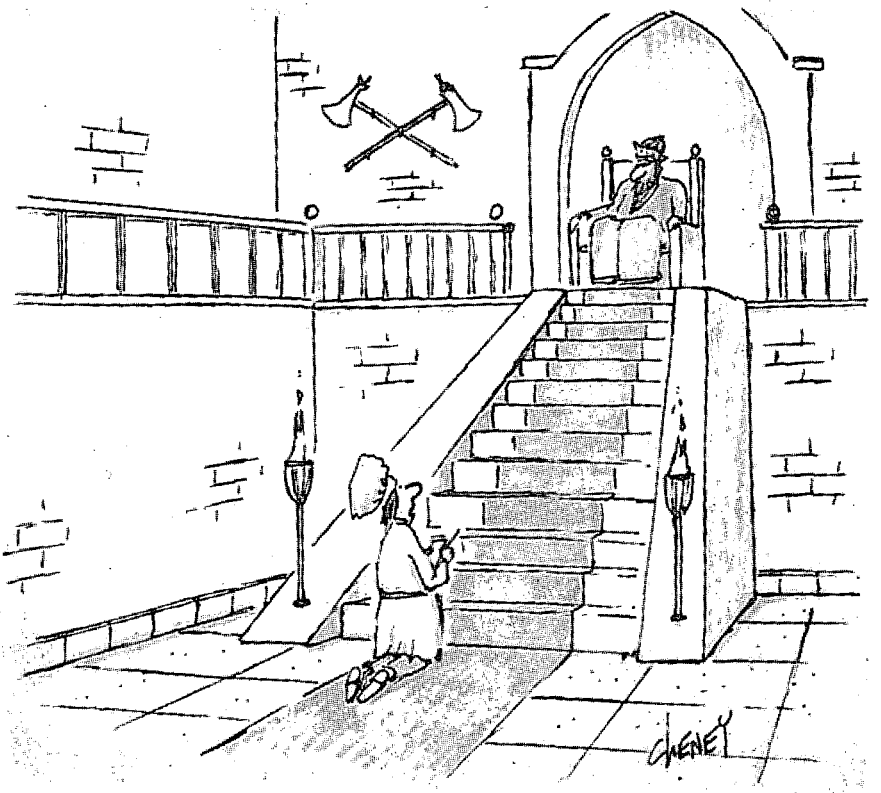
One final note: on our long flight home, my wife noticed that Sir Ian McKellen boarded our plane in New Zealand. It seems likely that he was there because he's playing Gandalf in Peter Jackson's forthcoming film adaptation of *Lord of the Rings*. Given Charles Brown's observation about horror and the movies, and considering how well Peter Jackson portrayed a fantasy kingdom in *Heavenly Creatures*, should we be excited by the prospects of the upcoming film — or alarmed? ☙

—GVG

*—with thanks to Justine Larbalestier*




*"Your Most Royal Majesty, Benevolent Usurper of the Sacred Chosen, and High Emperor of the Seven Kingdoms...do you want fries with that?"*

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*Thanks to his World Fantasy Award-winning novel* The Physiognomy, *its sequel* Memoranda, *and a handful of short stories, Jeffrey Ford is rapidly earning a reputation as one of the most interesting fantasists at work today. His first story for us is a contemporary tale that should further that reputation—but will it kill off the unbelievers?*

# The Fantasy Writer's Assistant

## *By Jeffrey Ford*

WHAT WOULD YOU EXPECT A fantasy writer to look like? In your mind you see a man with a white Merlin beard and long lithe fingers that spark magic against the keyboard, or perhaps a plump woman with generous breasts and hair so long it spreads about the room, entwining everything like the many-tentacled spell of a witch.

Picture instead Ashmolean, my fantasy writer, the one whose employ I was in for more than a year. Whatever power of enchantment he possessed was buried behind his eyes, because his description lent itself more to thoughts of other genres. Like one of Moreau's creatures, he appeared the result of a genetic experiment run amok — a giant sloth whose DNA had been snipped, tortured together with that of a man's and then taped and stapled. His stomach was huge, his arms short and hairy, his rear end, in missing the counterweight of the tail, had improvised with a prodigious growth in width. The head was a flesh pumpkin carved with a frown. Vacant, window-like eyes were rimmed by shadows, and the scalp was as devoid of hair as was Usher's roof of shingles. Even his

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personality was a conundrum that might have driven Holmes to forsake his beloved cocaine for the crack pipe. The only Fantasy I noticed was when he sat at his computer. Then he pounded the keys like he was hammering nails into a wooden cross and gazed at the monitor as would the Evil Queen about to utter, "Who is the fairest of them all?"

I came to Ashmolean through an ad in the local newspaper. It said: Wanted — clerical assistant devoid of interest in literature or ideas. I was told by him at the interview that he wanted someone who would not think but merely do research. Well, I fit neither of the criteria, but being seventeen and without a college degree, I thought it might be more interesting than selling hamburgers, so I lied and acted as blank as possible. He stopped typing for a moment, which he had been doing continuously through all of his questions, turned, and looked me up and down once. "Welcome to Kreegenvale," he said.

Contrary to my job description, I had been a reader and a thinker. Even back in the lower grades, when the other children in my school would go out to the playground with their balls and bats and field hockey sticks, I would take a book and sit beneath the oak tree at the far boundary of the field where sounds from the adjacent woods would cancel that riot of competition society was desperate to inculcate me into. In high school, I suppose I could have been popular. There were boys who wanted me for my long hair and slim figure, but the only climaxes I was interested in were those offered by Cervantes and Dickens. I had a few dates, but the goings on in bowling alleys and the back seats of cars always seemed inelegant narratives, the endings of which could be predicted from the very first page.

Perhaps things couldn't have gone any differently for me, seeing as I grew up, an only child, in a house where success was measured by the majority vote of the world at large. Both of my parents had been driven to achieve in school, at work, and in their personal tastes. My father, a well-respected contract lawyer, never discussed anything but when speaking to me always closed his eyes, pulled on his left ear lobe and held forth on some time honored strategy for defeating whatever problem I might bring to him. My mother, on the other hand, though a busy CPA, had always professed a desire to be a writer. Her favorite author could have been none other than Nabokov. In the beginning, I read to please them, and then somewhere along the way, I found I couldn't stop.

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I read the greats, the near greats, the stylists, the structuralists and then I read Ashmolean. His works filled and spilled from the bookcases that lined his study. He had written short stories, long stories, novels and even a poem or two. All of it, every word he had birthed from electrons on that computer screen, had gone toward advancing the career of *Glandar, the Sword Wielder of Kreegenvale.* Those thousands of pages contained more sword wielding than you could fit in a stadium.

That rugged thug of mountainous muscles, sinews of chain link, and spirit that was the thundering of eight and a half wild horses, had slain dragons, witches, elves, giants, talking apes and legions of inept, one-dimensional warriors whose purpose of creation was to be mown down like so much summer hay. When Glandar wasn't wielding he was wenching, and occasionally he wenched and then wielded. He was always outnumbered, yet always victorious. No one in the realm rode or drank or satisfied the alluring Sirens of Gwaten Tarn like Glandar, and no one so completely bored me to the brink of narcolepsy.

In comparison with the fiction I was used to reading, my fantasy writer's writing seemed like redundant, cliché-ridden hackwork. Say what you will of Glandar, though, his wielding pleased Ashmolean's readers no end. My fantasy writer was richer than the Pirate King of Ravdish. After his fourth novel, he could have lived comfortably for the rest of his days, existing extravagantly off the interest that Glandar's early adventures had generated. Ashmolean continued on, even though, as one unusually insightful article told, his wife had left him long ago and his children never visited. His house was falling down around him, but still, he worked incessantly, pounding on the keys with an urgent necessity as if he were instead administering CPR. It was not like anything new ever happened at Kreegenvale. Sooner or later it was a certainty there would be generous portions of wielding and then Glandar would end the affair with a phrase of Warrior wisdom. "One must retain a zest for the battle," was my favorite.

The critics raved about Glandar. "Thank god Ashmolean is alive today," one had said. About *The Ghost Snatcher of Kreegenvale,* the famous reviewer Hutton Myers wrote, "Ashmolean blurs the line separating literature and genre in a tour de force performance that leaves the reader sundered in two with the implications of a world struggling

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between Good and Evil." His fellow authors blurbed him with vigor, each trying to outdo the other with snippets of praise. I believe it was the writer P.N. Smenth who wrote: "I love Glandar more than my own mother."

My part in all of this was to keep Ashmolean from committing inconsistencies in his fantasy world. There was nothing he hated more than to go to a conference and have someone ask him, "How could Stribble Flap the Lewd impregnate the snapping Crone of Deffleton Marsh, in *Glandar Groans for Death*, when Glandar had lopped off the surly gnome's member in *The Unholy Battle of Holiness*?"

Ashmolean would never turn around from his computer but shout his orders to me over his shoulder. "Mary," he would say, "find out if the horse with no mane has ever been to the Land of Fog." Then I would scramble from the lawn chair in which I sat, book in hand, boning up on the past adventures, and search the shelves for the appropriate volumes that might hold this information. The horse with no mane had been to the Land of Fog on two separate occasions — once while accompanying Glandar's idiot first cousin, Blandar, and the second instance as a part of that cavalry of the famous skeleton warrior, Bone Eye.

This process was rather tortuous at first, as I struggled to learn the world of Kreegenvale the way a new cabbie learns the layout of a foreign city. After a time, though, by taking books home to peruse at night and with the speed I had accrued as a well-practiced reader, I had been over almost every inch of the mythical realm and probably knew better than Ashmolean where to get the best roasted shank of Yellow Flarion in the Kingdom or the going price of a shrinking potion.

The one thing I didn't know at all after so much time had passed was Ashmolean himself. He was always brusque with his demands and would offer not so much as a thank-you no matter how obscure the tidbit I dredged up for him. When he would rise from his throne at the computer to go to the bathroom (he drank coffee one cup after another), he would pass by me without even a nod. On payday, the second and fourth Monday of every month, my money would be sitting for me in an envelope on the seat of the lawn chair at the back of his office. It was a paltry sum, but when I would try to broach the subject of a raise, he would call out, "Silence, Kreegenvale hangs in the balance." The surreal nature of my employment

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was the thing that kept me returning Monday through Saturday for such a long stretch of time.

When I would leave in the afternoon, I often wondered what Ashmolean did when he wasn't writing. There was no television in his house as far as I could see, and no one save his agent ever called him. He hid from his fans for the most part except when there was a conference, and then I had read that he would not sign books and would not hold conversations once he had stepped down from the podium.

It was a puzzle as to when he shopped or did his laundry or any of the other mundanities that the rest of us take for granted. He seemed somewhat less than human, merely an instrument through which Glandar could let this world know of his exploits. The one clue that he was actually alive in the physical sense was when he would break wind. After each of these long, flabby explosions, which prompted me to begin thinking again of the merits of selling hamburgers, he would stop typing for only a moment to murmur Glandar's famous battle cry, "Death to the unbeliever."

You couldn't find two greater unbelievers than my parents during this time. They wondered why I hadn't raced off to college what with my excellent grades. "How about a boyfriend?" my mother kept asking me. "It's time, you know," she would say. My father insisted I was wasting my life, and I needed a real job, something with benefits. All I could tell them was what I felt. I wasn't quite ready to do any of that, although I was sure some day it would happen. Working for my fantasy writer was the closest I could get to that feeling of sitting at the boundary of the field by myself, away from the riot, and still pretend to be doing something useful.

Then one day, a year and a half into my employment, Ashmolean was hammering the keys in service of his latest work, *Glandar, the Butcher of Malfeasance,* and I was in my lawn chair, skimming through a novella entitled, "Dream Fountain of Kreegenvale," which had appeared in the March 1994 issue of *Startling Realms of Illusion,* when the typing abruptly stopped. That sudden silence drew my attention more completely than if he had taken a revolver from his file drawer and fired it at the ceiling. I looked up to see Ashmolean's hands covering his face.

"Oh, my god," I heard him whisper.

"What is it?" I asked.

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He spun his chair around, and still wearing that finger mask, said, "I'm blind."

Out of habit, I moved toward the bookshelves, initially thinking some scrap of research would ameliorate his problem. Then the weight of his words struck me, and I could feel myself begin to panic. "Should I call an ambulance?" I asked, taking a step toward him.

"No, no," he said, removing his hands from his face. "I'm blind to Kreegenvale. I can't see what Glandar will do next. The entire world has been obliterated." He stared at me, directly into my eyes for the first time. Through that look I could feel the weight of his fear. All at once, I remembered that I had read his real name was, of course, not Ashmolean but Leonard Finch.

"Maybe you just need to rest," I said.

He nodded, hunched over in his chair, looking like a lost child in a shopping mall.

"Go home," he said.

"I'll be back tomorrow," I said.

He waved his hands at me as if my words worsened his condition. I wanted to ask him if I would still be paid for the rest of the day, but I didn't have the courage to disturb him.

On the four-block walk back to my parents' house, I had metaphorical visions of Ashmolean as an abandoned mine, a tapped-out beer keg, a coin-operated drivel dispenser long since dropped from the supplier's route. He had plumbed the depths of vapid writing and actually found the mythical bottom. As the day wore on into evening, though, I had a change of heart. I don't know why, but after dinner as I was sitting alone in my room, making poor progress with Camus's *Myth of Sisyphus*, I suddenly had a vision of the defeated Leonard Finch still sitting in his office with his hands covering his face. I threw down the weight of Camus and went to tell my mother I was going for a ride.

I went everywhere on my bike, hoping people would think me a health nut instead of realizing the embarrassing fact that I had not yet tested for my driver's license. It was early autumn and the night was cool with a Kreegenvale moon — like the blade of a scimitar — as Ashmolean would have it time and again. I covered the four blocks to his house in minutes, and, as I pulled into his driveway, I noticed that all the lights

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were out. For the longest time I sat there, trying to decide if I should knock on the door. I think what finally made me get off my bike and go up the steps was that same desire that always drove me onward with any story I was reading. I wanted to find out how it ended.

For all my innate curiosity, I knocked very softly and took a step backward in case, for some reason, I had to run. I waited a few minutes and was about to leave when a light suddenly went on inside. The door slowly pulled back halfway and then Ashmolean's head appeared from behind it.

"Mary," he said and actually smiled. He pulled the door open wider. "Come in."

I was more than a little taken aback by his good humor, unable to remember ever having seen him smile before. Also, in that moment, I realized there was something very different about him. All of that frustrated energy that released itself daily in his punishment of the keyboard now seemed to have vanished, leaving behind a meek doppelgänger of my fantasy writer. I was reminded of his novella "Soul Eaters of the Ocean Cave," and momentarily hesitated before stepping inside.

"One second," he said and left me there in the foyer. I wondered what he had been doing in the dark. He soon returned with a manuscript box in his hands.

"Take two days and read this. On the third day, come to work. I will pay you for the time," he said.

I took the box from him and just stood there not knowing if I was to leave or not. He looked to me as if he needed someone to talk to, but I was mistaken. That vacuous demeanor that had put me off on my arrival now crumbled before my eyes. The redness returned to his face, the arch to his eyebrows. He stooped forward and, with true Ashmolean fury, blurted out, "Go."

I did, quickly. By the time I was on my bike, the lights had again been extinguished inside the house. There was no question in my mind that he was a maniac; what bothered me more was his obsession for creative honesty. He truly could not continue unless he saw for sure inside his head what would happen next in Kreegenvale. This was a practice I had always associated with writers of a different caliber than my fantasy writer. It was with this in mind that I began that night to read *The Butcher of Malfeasance*, and, for the first time, I found I cared about Glandar.

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When Ashmolean wrote a novel, it was always a door stopper, and Malfeasance was no exception. It was different in one respect, though. For the first time in any of Glandar's adventures, the hero had begun to show his age. There was a particular passage early on, following the beheading of an onerous dwarf, where he even complained of back pain. Also, while lying with the beautiful Heretica Florita, green woman of the whispering wood, he opted for long conversation before vegetable love. Moments of contemplation, little corkscrew worms of uncertainty, had burrowed into the perfect fruit of wielding and wenching that had been Kreegenvale.

I thought perhaps these changes had come because of the nature of the story. In this adventure, Glandar's enemy was a product of himself. It had been well established way back in *A Flaming Sword in the Nether Region* that the Gods of Good smiled upon Glandar for his heroic deeds. To keep him healthy and able to work their positive will against the forces of evil in the world of men, they would send the black bird, Kreekaw, to him at night. The bird would snatch his nightmares from him as he dreamed them and then fly with them to the Astral Grotto where they would be incinerated by Manck, the celestial blacksmith, in his essential furnace.

In the new novel, Stribble Flap the Lewd seeks revenge for having had his member lopped off in an earlier book. Taking his bow, he waits outside the palace at Kreegenvale one night, and as the black bird leaves Glandar's window with a beak full of nightmares, he shoots at it and slays it with an arrow to its heart. The bird plummets into Deffleton Marsh, releasing the nightmares, which coalesce in the rancorous bottom mud and form, through a whirling, swirling, glimmering and shimmering mumbo-jumbo reminiscent of Virginia Woolf, the monster Malfeasance, a twelve-foot giant with an amorphous rippling body and a shaggy head the size of seven horses' rumps set side by side. This horror begins to roam the countryside spreading its ill will. Glandar avoids a confrontation with it until he learns that it has killed Heretica Florita and sloppily devoured her green heart.

On the third day, I returned to Ashmolean. He was waiting for me in his office, looking again rather pale and meek. I was surprised to find my lawn chair had been moved up next to his writer's throne. He greeted me by name again, and motioned for me to sit beside him.

As I handed him the manuscript box, he asked me if I had read it.

I told him I had.

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I thought he would ask me what I thought of it, but I should have known better. Instead, he said, "Did you see it? In your mind, like a movie? Were you there?"

I told him I was there, and I had been. Although the writing was Ashmolean's usual halting, obvious, subject/verb, subject/verb style, the whole adventure, right up to the end where the final battle was about to take place, had truly been more vivid than life.

"Please," he said, and then paused for a moment.

"Please?" I said to myself.

"Just as you would find on the shelves those instances from the history of Kreegenvale I required, now I need you to find something for me in the future of the realm."

I knew what he was asking, but still I shook my head.

"Yes," he said. "You must. There is no one else who knows the saga as well as you. I chose you for this. I have slowly been losing my vision of Kreegenvale for the last two books. I hired you because I knew you were bright. I could see you were a dreamer, a loner. What kind of girl as pretty as you would apply for a stupid job like this? I knew the day would come when I would go completely blind to the story."

"You want me to write the end of the book?" I asked.

"You don't have to write it," he said. "Just tell me what you see. Tell me in as much detail as possible what Glandar does in his final battle with the Malfeasance. Not just how he slays it, but how he moves the sword, how he dodges the monster's acid belches, what kind of oaths he showers upon it."

"How?" I asked.

"Close your eyes," he said.

I did.

"See it here," he said, and I felt his finger touch my forehead between my eyes. "Go back to the adventure. See it step by step. What did they look like? How did they sound? What was the exact shade of green of Heretica's flesh? When you fall into the story, when you are there, follow what they do. Speak it to me, and I will write it down."

"I'll try," I said. At first it was hard to get to the story, because all I could think about was his telling me he knew all along I was bright and why would a pretty girl like me want such a stupid job.

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"One must retain a zest for the battle," I heard him whisper, more, it seemed, to himself than to me. Like a shard of glass this phrase made a small tear in my thoughts of me, and the light from Kreegenvale shone through. With great concentration, I widened the hole in the fabric and eventually struggled free into the realm of Glandar.

The beginning of the story played itself out before my eyes like a video on fast forward. I was everywhere I had to be, like an actual subject of the realm, in order to see the key moments of the story speed by. I watched Stribble Flap fire his arrow, saw the dwarf's head roll onto the ground with a gush of blood, and turned away as Heretica reached toward Glandar's loin cloth at the end of their lengthy dialogue. When I looked back, I was standing beside the hero himself. The wind was blowing fiercely, the sky was, of course, cerulean blue, and we were very near the edge of the cliff that overlooks the ocean.

Glandar held his sword, the mighty Eliminator, in his left hand. In his right, he clutched the octagonal shield, Providence, given to him by his dying father. Sweat glistened on his tan, muscled body. His long black hair was tied back with a vine of Heretica's hair; all that was left of her. Fifty feet away, near the very edge of the cliff stood the Malfeasance, its towering blob of a body birthing faces here and there that called insults to the king of Kreegenvale. The head of the monster was like an enormous clod of earth come to life. Its yellow mane hung down in a tangled greasy mess, stained with blood and spleen. Its mouth opened wide enough to swallow a cow, displaying numerous rows of jagged teeth.

"Smell my bile, the perfume of your own night terrors," it bellowed, licking its lack of lips with a boil-ridden whale tongue.

The Malfeasance released a ball of gas, a miniature violet sun, that sailed on the breeze toward Glandar. He lifted his shield and held it up to block the bomb of acid breath. I watched as the noxious blast bubbled the paint that had been the heraldic design of Kreegenvale. Glandar grunted and fell to his knees.

"I think that burnt the hair in my nose," he whispered from where he knelt on the ground. Then he looked up and right at me. I saw a glimmer of recognition in his eyes as if he was actually seeing me standing there. He smiled at me and slowly stood up.

"Hold up, Mal," he called to the monster. "She's here."

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As the hero walked toward me, I saw other characters from Kreegenvale come out of hiding from behind the rocks and trees that were about fifty yards behind us.

"Somebody give me a drink," called the monster, "I've got to get this taste out of my mouth."

"Everybody take a break," called Glandar over his shoulder.

He shoved his sword into the ground and dropped his shield.

"What's happening?" I asked.

"Mary, right?" he asked.

I nodded.

"We've been waiting for you."

The others, all of whom I recognized from other stories, gathered around him. The Malfeasance was now leaning over us, swaying in the wind.

"Hello, darling," the monster said to me, reaching down with an arm that grew from its side for a wine skin from Stribble Flap.

"Mary," said Glandar, "there's not much time. I'll explain. We had Heretica put a spell on Ashmolean a few books back so that he would eventually lose touch with our world. It took a while to work, because he's so powerful. I mean, he's god, if you know what I mean. At first we thought he might just give up on us, but then, when he hired you, we realized what his plan was."

"You mean, to finish the book?" I asked.

"Right," said a woman to my left. I turned and saw the beautiful green face of Heretica Florita.

"I thought you had been devoured?" I said.

The Malfeasance laughed. "We made up a woman out of grass and sticks and such and I ate that in her place. How could I really eat her?" he asked.

"Don't ask," said Glandar. The assembled characters started laughing and Heretica leaned over to punch the hero in the arm.

"Why are you telling me this?" I asked.

Glandar waved the others away. "Let us have a moment, here," he said. They all took a few steps back, and sat down on the ground. In seconds, what appeared to be flagons of wine and mead were making the rounds. The Malfeasance was sipping from its wine skin and letting the

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children use its back as a slide. Every time one of the little ones laughed, so did the creature with a wheezing cough.

Glandar led me away toward the edge of the cliff. When we were out of earshot of the others, he turned to me and said, "It's got to be over, Mary. I can't take any more of this."

"You miss Ashmolean?" I asked.

"No, not at all. I thought you would understand. What I'm telling you is I can't go on. If I have to kill one more thing, I don't care if it's a mosquito, I'm going to lose my mind."

"You are unhappy with Ashmolean," I said.

"Some of the others call him Ash-holean. I have more respect for him than that, but I've been with him from the first page. There were times in the beginning where it was all very exhilarating, but now, man, life in Kreegenvale is a tedious thing. There's nothing new here. I know, when every adventure begins, that I'm going to be killing. Imagine waking up every day and knowing you are going to have to kill something or someone, maybe a whole army of men you have no quarrel with."

"But there are other aspects to Kreegenvale than the killing," I reminded him.

"I'm not a drinker. Every time Ashmolean has me quaff flagons, I'm sick as a dog for the next fifty pages. All that wenching too — sickening. You'd think the guy never saw a woman with normal size breasts. All I ever wanted was a few minutes of love, but that's more exotic to the big man than the three-faced cat-boy of Ghost City."

"Do you want me to make him write love into the plot?" I asked.

"It's too late for that. I just want to help free the others now. I want an end to it, so that they can go back to the lives they had before I happened to them."

"I used to feel the same way about Kreegenvale when I first started reading about you," I said. "But now, I don't think I've ever read anything that has been so alive to me."

"Ashmolean would be a sham if not for one thing. He truly feels it. That's a miraculous thing. I'm doing this because I want to help him out as much as the others."

"You want me to sacrifice you to the Malfeasance, don't you?" I asked.

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He nodded and I could see tears in his eyes. "That's what heroes are for," he said.

"I don't know if I can do that. He probably won't let me," I said.

"He will," said Glandar. "He can't prevent it. You're too powerful."

"Too powerful?" I said.

"Please," said Glandar and his voice went through an odd transformation into Ashmolean's. "Do you see it?" asked my fantasy writer.

I looked to my left and there he was, fingers poised above the keyboard, ready to start hammering. I turned back to my right and saw Glandar and the Malfeasance in their battle positions by the edge of the cliff.

I could feel the power that Glandar had mentioned welling up inside of me. "Okay," I said, "get ready." My words came forth with an energy of their own, flowing straight up from my solar plexus, colored with vivid description, crackling with metaphor and simile. I spoke without hesitation the battle of Glandar and the Malfeasance, monster, born of the hero's own ill thoughts.

The Eliminator flashed in the sunlight, and there was rolling and running and gasping for air. Wounds blossomed, blood ran, bones shattered. Great chunks of the monster's amoebic body flew on the ocean wind. And the invective was brilliant: "May you burn in Manck's essential furnace until the scimitar moon sews your soul to eternity." Acid breath and biting steel, the two fought on and on — now one getting the upper hand, now the other.

To my left, Ashmolean was white hot, typing faster than the computer could announce the words that jumped from me to his fingers. "Death to the unbeliever," he murmured under his labored breath.

In the end, Glandar, so brutally wounded that he was beyond recovery, gave one final suicide charge forward, burying himself in the viscous flesh of the monster, forcing both of them over the edge of the cliff.

Ashmolean cried out, "It can't be," as I described them falling, yet his fingers continued typing.

"No," he moaned as they hit the rocks hundreds of feet below, but the action on the keyboard never slowed.

He wept as the ocean waves washed over them. After he hit the final period, he turned away from me to cover his face again with his hands.

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With that last dot, Kreegenvale went out like a light in my own mind. I pushed back the lawn chair and stood up. Ashmolean's body was heaving, but all of his grief was silent now. Saying nothing, I left the room, left the house, and never went back.

As devastating as the death of Glandar might have been for Ashmolean, it left me with a sense of determination about my own life that even the sword wielder had never exhibited. When thinking what to do next, I remembered Leonard Finch putting his finger on my forehead and saying, "See it here." In rapid succession, I took the job at Burgerama and registered to begin taking classes at the local college. I often thought about what I had done to my fantasy writer, but reconciled it by telling myself it was the best for everyone.

Still, memories of Kreegenvale would sometimes blow through my mind, especially when I sat in the literature lectures and the profs would fall into theoretical obscurity. Then I prayed Glandar would kick in the door and start wielding. For the most part, though, I loved learning again. I took a lot of English courses, but I knew I didn't want to teach. As for the job, it was greasy and hot for little pay, and when I'd slide those horse fat sandwiches across the counter to the eager customers, I'd whisper, "Death to the unbeliever." For all the Gwatan Tarn horrors of Burgerama, it was fun getting to know the other workers who were my age.

Things were going very well, and my parents were pleased with my progress, but for me, there was something missing. I realized one night that what I wanted was to be a writer. Even to be back in Ashmolean's study, where words breathed life into the impossible, would have sufficed. I bought a notebook and began trying to tell a story, but from some lack of courage or an overabundance of self-criticism, I never got further than the first few lines. "If only Kreekaw would come," I thought, "and snatch this frustration from my troubled sleep."

I was into my second semester of college and succeeding in the time-honored tradition, when one day a package for me was delivered UPS to my parents' house. My mother called me, and I came downstairs, rubbing the sleep out of my eyes. I had been up late reading Swift's *Battle of the Books* for an exam. She handed me the brown parcel, planted a dry kiss on my cheek, and then left for work.

Opening the mailer, I slipped out the contents — a brand new fat hardcover book. A thrill ran through me when I saw that it was a copy of

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*The Butcher of Malfeasance.* Of course, I dropped the mailer and paged frantically to the end of the novel, to the part I had been responsible for. Five pages from the end, I picked up the narrative where Glandar faces off against the monster by the edge of the cliff. Reading it was an experience I will never forget, for Ashmolean had used my exact words. I ran my fingers over the print on the page and when it didn't brush away, I thought to myself, "I created this."

I saw the battle take place before my eyes just as I had seen it in Ashmolean's office the day I dictated it to him. The oaths and all were there, perfectly rendered. But when I read to where the ocean came and washed the fallen bodies out to sea, there was another whole page of writing.

Puzzled, I continued to find that Glandar returns that night to Kreegenvale. Soaking wet, with urchins in his hair and seaweed wrapped around his neck, he steps into a room of mourners. They rejoice, the flagons are passed, and he tells how the elastic body of the Malfeasance saved him from the fall. Although he almost drowned, he managed to fight the current and come ashore three miles down the coast. Then the novel ends on a high note, promising more drinking, wenching, and wielding to come.

"What the hell is this?" I said aloud. A few minutes later, after reinspecting the mailer, I found my answer. In my rush to see my words in print, I had missed the letter from Ashmolean that was addressed to me.

Dear Mary:

I'm sorry, but I had to change your ending a little. Think of all the future royalties I would have lost had I let Glandar die. I'm not ready to kill him off just yet — everyone needs a fantasy. He sends his best and apologizes for his part in the fiction I created for you. I knew from the day I met you that you were smart and that you loved books and ideas. I would have realized that even if I hadn't made a phone call to your school before you even came to the interview. They told me about your place on the edge of the field. I know that place. There are other places you need to go as well. Sometimes an act of destruction can be an act of creation. I felt you needed that to begin your journey. I believe that as your obsessed, blinded fantasy writer, I was the best character I ever created. What good is the

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illusion of fiction if it cannot show us a way to become the people we need to be? Glandar says, "Be courageous, squeeze every ounce out of life, and live with honor." Simple but still not a bad message to sometimes remember in this complex world. I did this because I knew someday you might become a writer, but that you needed a little help. Glad to be of assistance.

Ashmolean

At first I was confused, but I read the letter again and laughed like a believer. I never took my test on Swift that day, but instead went to the kitchen and made a pot of coffee. Then, I returned to my room and over the course of two days, my mother and father calling to me from the other side of the locked door, I wrote this story. ☙

*"I think it's pretty obvious what my problem is"*

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# Books To Look For

## CHARLES DE LINT

*Flesh Guitar*, by Geoff Nicholson, Overlook Press, 1999, $23.95.

IF YOU LIKE rock 'n' roll, and particularly guitars, this is the book for you. And if you like the idea of a story told in a fresh manner, then you'll want to try this as well.

It's the story of Jenny Slade, experimental guitarist extraordinaire. We meet her in a dive of a club where she unpacks her flesh guitar (a curious combination of instrument and human; its origin is explained later) and proceeds to play a set of music that awakes a stunned, positive response in an audience composed of drunks and the disinterested. She then gives the guitar away and disappears into the night.

Enter Bob Arnold, her biggest fan, and the remainder of the book is his filling in the history of Jenny Slade and guitar playing in general to the waifish barmaid, Kate, who starts out listening only because she's bored and there's nothing better waiting for her at home.

But this is neither a classic "story within a story" novel, nor simply a hodgepodge of vaguely related items, for all that it's told in a fairly scattershot manner, including extracts from interviews, reviews, articles, and shifting points of view. There are literary allusions sprinkled throughout, from a brief rock 'n' roll retelling of *Moby-Dick* to Slade as the doomed mariner in "The Rime of the Ancient Mariner," and wonderful bits where Slade interacts with some of the greats of the rock field (Kurt Cobain, Robert Johnson, Frank Zappa, and Jimi Hendrix) as well as some truly bizarre made-up greats. There are fascinating explorations into the impulses that create experimental music, exploring both sides of the coin: that created by poseurs who can only talk the talk, but somehow manage to garner acclaim, and those who can't do anything else but experiment.

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The book is experimental as well, both the story itself and how it's told. But by the same token, it's highly readable and will never leave the reader floundering. Truth is, I found myself turning pages as though I were reading a thriller — though *Flesh Guitar* is far more complex and deeper than most books in that category.

*The History of Our World Beyond the Wave*, by R.E. Klein, Harcourt Brace, 1998, $22.

When the giant wave comes, Paul Sant survives through sheer luck. He's inside a sports shop and has access to oxygen tanks. Once the wave has settled, he's able to float out through a high window on a surf mat only to then discover that California is gone. All he can see is an immense spread of ocean.

After a time, his surf mat brings him to an island on which he finds a few buildings, but no people, and so begins his quest to discover what happened to the world and its inhabitants. He floats from island to island on various boats and rafts, meeting other survivors and having strange, visionary experiences with people and creatures not of this world. Or at least, not of the world he remembers.

While the basic sensibility of the character remains fairly contemporary, the feel of the book reminds me more of writers from earlier in the century, evoking the surreal fantasy of David Lindsay and the less horrific elements of Clark Ashton Smith, William Hope Hodgson, and even Lovecraft. There's also a sense of those end-of-the-world novels that were popular a few decades ago, except here the world ends with water and flooding, rather than a nuclear winter, and soul-searching is as important as survival.

It's easy to see why, as I write this in August, 1999, *The History of Our World Beyond the Wave* is one of the finalists for the Mythopoeic Fantasy Award for 1999. It's a fascinating and inventive novel, with that old-fashioned sense of wonder rarely present in contemporary novels. The novel has only one drawback: in evoking Everyman with his first person viewpoint of Paul Sant, Klein doesn't really allow Sant himself to come alive. One senses that all the characters are present in the story simply to make points for the author, rather than as representations of living, breathing people.

It's not enough to spoil the book, certainly, but what a greater delight it would have been had Klein been as inventive with his characterization as he is with everything else in the book.

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*Dark Sister*, by Graham Joyce, Tor Books, 1999, $22.95.

The opening premise is about as hoary as they get: a young couple find the diary of a witch, hidden in the closed-off chimney of their townhouse, and are subsequently troubled by strange occurrences and haunted by some ancient spirit....

Ah, but this is from the pen of Graham Joyce, who gave us an entirely new view of the tooth fairy in his last novel, and trust me, he's made this story fresh as well.

Maggie and Alex are the young couple, housewife and archeologist, and *Dark Sister* is as much about the dissolving of their marriage and how they deal, or don't, with putting it back together, as it is about the discoveries they make in themselves after having found the diary. That's what so absorbing about Joyce's writing. He delves headlong into the strangeness, but doesn't ignore the people.

Maggie is drawn to the entries in the diary — Wiccan herb-lore that reawakens some sleeping part of herself and helps her regain a sense of self-worth. Alex is a bit of a control freak, and has always been afraid of losing Maggie, but he ends up driving her away all the same with his pigheadedness and eventual abuse. When she winds up in the hospital, she refuses to come back home — but that also separates her from her two children.

Alex finds solace in affairs. Maggie finds help in friendships, first with an herbalist named Ash, then an old witch-woman named Liz. But there's a dark streak in Maggie and when Alex wins custody of the children through a court hearing, she lets the dark side take over.

I've probably told you too much already and haven't even gotten to how Joyce ties in the diary with the archeological site Alex is working on, or the wonderful way he's able to depict Maggie's growing knowledge of witcheries, or his ability to create characters that are such a truthful blend of generous and misguided impulses.

Like *The Tooth Fairy*, this new novel is full of wonder as well as darkness; a beautifully written book that blurs the lines between modern life and older beliefs without being too New Age or sensationalist. Readers looking for the quick, messy scare will be disappointed. But those willing to spend a little time getting to know these characters will be entranced and all the more devastated when events take a turn for the worse and the small darknesses add up into a larger menace.

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After reading two superlative novels of his in a row, I'm beginning to think that Joyce is incapable of writing a bad book.

*The King of Elfland's Daughter*, by Lord Dunsany, Del Rey Impact, 1999, $12.

Regular readers of this column might recall the oft-mentioned and high regard I hold for a number of the pioneers of fantasy, authors such as William Morris, James Branch Cabell, and Lord Dunsany. That regard remains unchanged, but I do have to admit that it's been a few years since I've actually taken the time to reread some of their classic novels, books like *The Well at the World's End*, *Jurgen*, or *The King of Elfland's Daughter*.

The launch of Del Rey's new Impact series with *The King of Elfland's Daughter* seemed the perfect opportunity to rectify that, at least with Dunsany, and I'm happy to report that, unlike some other books from my adolescence (spy novels, Burroughs), the novel's every bit as good as I remember and I'm enamored all over again. It's not simply the beauty of the language, the astute eye for character, the hint of humor, or even the spell of legendry and wonder, but Dunsany's unique combination of all of the above. Even today, after all the fantasy novels I've read, his work remains fresh and exuberant.

Regardless of whether the subject is lofty or small, Dunsany makes a magic of it. From Prince Alveric's first venture into elfland in search of an elfin bride to Lurulu the troll making a hiding place in the pigeon loft, from the descriptions of the castle of the King of Elfland to the simple portrayal of spring's arrival, from the unicorn hunts through twilight forests to the endless plotting of the twelve men without magic, there's not a dull or false note struck.

This new edition sports an introduction by Neil Gaiman (whose own *Stardust* owes more than a tip of the hat to this book) and a cover featuring a reproduction of John Waterhouse's lovely "La Belle Dame Sans Merci."

Material to be considered for review in this column should be sent to Charles de Lint, P.O. Box 9480, Ottawa, Ontario, Canada K1G 3V2.

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# MUSING ON BOOKS

## MICHELLE WEST

*Hannibal*, by Thomas Harris, Delacorte Press, 1999, $27.95.

*Cryptonomicon*, by Neal Stephenson, Avon, 1999, $27.50.

LET ME SAY two things up front. First, before I picked up *Hannibal*, the only experience I'd had with Thomas Harris was through the movie *Silence of the Lambs*, which, as it turns out, was an artful and intelligent adaptation of a very, very good police procedural. It featured the compelling, fascinating, and disturbing performances of Anthony Hopkins as Lecter and Jodie Foster as the young woman, Clarice Starling, who is forced to surrender her life, in bits and pieces, as barter for another's.

Second: I do not read slasher books. I read very little horror, and in particular the gorefests in which deaths of loving description and grotesque ingenuity abound are anathema, not on moral grounds but on aesthetic ones: If it starts to read like a medical list of body parts, I have the same emotional attachment to the text as I would to *Gray's Anatomy*. This perhaps makes me the wrong audience for the book itself (I actually had no less than five people tell me I had no right, as a reader, to review this particular book), and perhaps my review will not be relevant to readers who have more appreciation for certain horror tropes than I.

Because the performances of the two actors mentioned above were so compelling, I started *Hannibal* as if it were a sequel to the movie, flipped it open, started to read, and was completely lost. After I finished it, I went back and read *Silence of the Lambs*, rewatched the movie and compared it with the book, and then read the less relevant *Red Dragon*, in which Lecter makes his first, sketchy appearance. Both *Silence* and *Dragon* have in common the structure of a police procedural. *Hannibal* does not.

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In some ways, *Hannibal* is more of a sequel to the movie than it is to the novel. In the novel, Clarice Starling took from the screaming of the lambs one fragile element of hope: the pony on the farm. She rode it to the orphanage; she saved it from the death the ranch offered. She was turned out of the last refuge she had for doing so, but the pony lived, a symbol of possible healing.

Compare this with the movie, in which Hannibal Lecter makes clear that she *failed* to save anything. She picked up a lamb; it was *heavy*. She ran with it, thinking if she could just save one thing...but all that remains from that single night in which the lambs were screaming as they were butchered is the bitter memory of failure and the frenzied need to obviate that failure by saving *something*. Clarice Starling, the representative of decency and the character with whom the reader/watcher most identifies, still feels those psychological scars strongly. And who wouldn't? Who hasn't felt helpless in a situation in which greater strength or power might have saved the day?

Hold that thought, and move forward ten years, from the precise police procedural of *Silence* to the very different terrain of *Hannibal*.

Far from basking in the light of her previous success, agent Clarice Starling has fallen on hard times because of her inability to play bureaucratic, political games. The few friends she has always had in the bureau are on the outs, and the man who has been, if not a father, then a father figure — the legendary Jack Crawford — is looking retirement in the face.

When a drug bust goes dangerously, terribly — and far worse, *publicly* — wrong, the bureau needs a scapegoat, and Starling, reeling from the impact of that bust and plastered across the nation's tabloids, has concentric circles all but painted across her perfect forehead. She knows it, but she's never gone down without a fight.

Agent Paul Krendler, self-important chauvinist, is back and makes her life hell as a superior in the bureau. He is, at best, a cardboard cutout. He teams up with a man named Mason — the only one of Lecter's victims to actually survive — (and an equally unconvincing character; all of the characters that surround Mason, with the single exception of Barney, the only nurse/attendant who was considerate enough about security during Lecter's imprisonment that he met with Lecter's approval, are walking clichés; you can practically see the

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strings move) and they attempt, between them, to trap Hannibal Lecter. Krendler is in a position to offer as bait the *only* thing it is known for certain that Lecter maintains a fascination with: Clarice Starling. Mason is willing to use that bait because he wants revenge. His massive fortune allows him to run a hotline that takes in and checks out all tips about the whereabouts of Hannibal Lecter, and when a good, solid tip comes in, he sends out his hired help to catch Lecter; their failure leaves Starling as the only option. This section almost sinks the book; it's over the top in a garish way that serves only to drag Lecter from one place to another — and I wish that Harris had just used a boat or airplane instead. I have out of kindness neglected to mention the man-eating pigs trained by the hired assassins.

This sounds harsh; it is. But...it didn't stop me from reading the book. Because whenever Harris turns hand or pen — and word — to Hannibal Lecter or Clarice Starling, the book *sings*. From the opening letter that Lecter sends to Starling through various remailers, in which he speaks to her sense of profound failure by invoking an equally profound dignity, through the scenes in which, room by room, Harris leads us into the heart of Lecter's "Memory Palace," right up to the final set of scenes in which they're both hunters and hunted, there's a richness to language and image that speaks of older, wilder things.

Having discovered that dedication doesn't make a difference in her world, Starling is looking at a bleak future. The morally correct world of law enforcement has been tarnished by the banality of politics and ambition; men who should know — who *do* know — what she's faced are willing to sell her in order to save themselves. Not only does Harris deprive Starling of the easy straight and narrow, but he finally allows Hannibal Lecter to share the memories that are at the foundation of his compelling and revolting career. To ask whether or not the motivation is psychologically convincing is almost to miss the point: Hannibal Lecter is not a man. He's a fictional deity, a person who — on screen — has been incapable of making a mistake or of losing control of the situations in which he deigns to involve himself. He is not a man we love to hate; he is a personified force to which we are uneasily drawn, as Clarice herself has always been.

Both Clarice Starling and Hannibal Lecter are survivors. But

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they are survivors who, at a point in their lives, were helpless before the onslaught of men who kill for food. For Clarice, peace has been bought by saving victims. And for Hannibal? It's clear that he grew quickly to identify with the hunters and not the hunted; it is less clear that there is any peace in that growth.

Damaged, both people reflect their past; the veneer of the mundane, civil world shows cracks long before they meet again in the pages of *Hannibal*. In the psychological forest in which Lecter's palace stands, "good" is just another form of scarring. We all start out as babes with no concept of morals or ethics, and clearly Harris believes that the ethics that we as a civilized society do prize are developed at cost and through the same fires that forge a much darker set of characteristics.

This point is the one thing that makes the novel disturbing in a way that its predecessor wasn't. In *Silence*, Starling was the person with whom we identified. Although the psychology of her past was explored, there was never any question about *her*. She was the person who struggled — as we all do — to do the right thing in an imperfect world.

She is less than that here, and more than that. Harris has crossed the line between evoking reality and playing with archetype; he is telling us a story, a fabulist tale, about monsters in dark places who are still looking — inasmuch as they are capable — for justice.

The end of *Hannibal* is not what I expected, and I honestly wasn't certain how I felt about it for almost a week afterward. Ultimately, I chose to accept it for what it is: a twisted, incestuous, and compelling read throughout which the dark heart of Beauty and the Beast can be found, beating loudly.

Maybe the ease with which information travels makes idealism an easy target. Maybe all we *can* take out of life and the tedium of day-to-day experience is the grim dismissal suggested by Harris's novel: that good is just another form of psychological damage.

Cynicism has become synonymous with intelligence; optimism must be displayed with a certain élan and a smallness of scale that makes it unthreatening and undemanding. Nobody who is hip is earnest or idealistic.

And nobody is more hip these days than Neal Stephenson. He has been on the cover of *Wired*. He

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writes the highly fashionable and incisively humorous future fiction that has justifiably garnered praise. He has been called the successor to William Gibson by more people than I can probably count in my spare time.

And *Cryptonomicon* is the book that a hip person with a strong streak of idealism would write. Well, a hip person with an arresting command of language, a keen eye for the way people relate to each other, a subtle sense of structure, and a sense of humor that never sidles into slapstick.

The book is slow to start. Stephenson is no minimalist. His language is rich, his descriptions arresting; he makes no attempt at invisible prose — and why should he? He's aware of media, and his medium; when you're as good as he is, there is no reason to dissemble. Lawrence Pritchard Waterhouse is a compulsive man with a genius for mathematical equation and formulae and an inability to interact with the world around him otherwise; Bobby Shaftoe is a U.S. Marine whose life will be informed in every way by the work Waterhouse does, although he is in the end to see very little of him. They begin with the game of war and the game of codemaking and codebreaking; the story will take their grandchildren, Randy Waterhouse, the quintessential computer geek, and Amy Shaftoe, salvage expert in training, to finish.

Bridging the generations are two men, Enoch Root and Goto Dengo; Dengo's secrets lie at the heart of the mystery, although Enoch's secrets — which remain partially hidden from the reader by book's end — are certainly the root that seems most likely to lead into the future that Stephenson has said in interviews elsewhere exists in the universe of *Cryptonomicon*. Enoch Root was part of the special wartime division that was created to keep the Nazis from realizing that their precious wartime codes had been cracked by the obsessive on-the-edge-of-sane men who people the Crypto division. But it wasn't Nazis alone who were involved; the Japanese were also using a coding system of their own to communicate with their allies, and it is these communications that are crucial.

Starting before World War II, and ending in a very near future, Stephenson's book traverses the boundaries of time, generation, and geography. Cutting between the distinct periods of past and present, Stephenson builds a fellowship of

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geeks; people who are compulsive about data, structures, secrecy — codes. People who live on the fringes of their own society, in the midst of different kinds of war. Is this book, strictly speaking, sf? No, not if you plan on starting and stopping here. But in that it sets up the future that Stephenson has spoken of, it's the beginning of a speculative work on a grand scale, and it is relevant to the genre's readers for that reason.

There is a Tolkienesque substructure to the whole; a sly nod and an homage to a man whose magnum opus, for better or worse, defined the mythic or heroic quest for the past half-century. It's interesting; so many writers who are not working in what is thought of as the Tolkienesque vein are nonetheless grappling with the legacy of reading his work at an early age, of being influenced and moved by it, of believing in it on some level that seems — at a remove — to be unfairly naïve.

We've outgrown our belief in the heroic. We've come face to face with the banality of everyday life, with the practiced lies that are politic and political, with the struggle for power in every institution, no matter how theoretically venerable and above these things they should be. We're caught in the smallness of our lives, in the inwardness of them.

What does this have to do with *Cryptonomicon*? Everything. Stephenson rushes headlong into that smallness, decrying it while he celebrates the weirdness inherent in it (there is a scene in the book that is killer funny, but only if you've been in the excruciating position of actually having to explain what a fantasy RPG is to someone who clearly has no idea and would probably have you committed if they did), casting his nets, and pulling from the war and horror of the past an unlikely fellowship, a group of men — and a woman — who will make their way to a figurative Mount Doom, carrying the burden of the desire for gold and the geas of changing the world with it; of making it a safer place for those who will follow in generations to come.

What I don't know — and what I want to know — is what comes *after*. In the Tolkien-eye view of the universe, the great magics and the great heroes passed away with the dying of an age. We're what was left. In the Stephenson view of the universe, at the foot of what could be a volcano, our heroes are looking for a moment of peace before the future devours them.

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I want to know what that future is. I want to know if the idealism that drove these people to this place *in spite* of the very real horrors of their life, or perhaps because of them, is rewarded, or if it, like all dreams, is to be exposed as callow and foolish; if the best we can do is to facilitate the dishonest by our credulity, or if the best we can do is continually attempt to wage the war on our own terms, gaining ground we can't see even if the idea of holding all of it is naïve.

And I don't know yet which side of the future Stephenson falls on, but I'm watching with a curious hope. If someone as perceptive as Stephenson can see a future that might come out of the optimism and idealism of the past, it means a lot.

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*Dana Wilde recently moved back to Maine after spending a couple of years teaching in Bulgaria. His writings—poems, essays, and fiction—have appeared in* Asimov's Science Fiction, The Quest, The North American Review, *and several other publications. He lives with his wife and son in Maine where he works as a copyeditor for a daily newspaper and is currently working on a book of essays entitled* Infinities *that speculates on astronomy and cosmology.*

*Mr. Wilde's* F&SF *debut also examines astronomy and philosophy and the results are extremely disquieting. You don't still believe in reality, do you?*

# The Green Moon

## By Dana Wilde

*The Lost Photograph*

FOR A LONG TIME THERE was a photo of the gibbous Earth rising over the horizon of the Moon. Most of the top half of the picture was black space, but in the middle, a little right of center, the semicircle of the Earth, with white clouds swirling over the deep blue, hung over the Moon's surface like a mountaintop over the ocean. The Moon craters seemed to swell up and down like giant sea-rollers, and in the color versions the Moon's surface weirdly resembled a grayish-green ocean on rough nasty days. The Apollo 8 astronauts took the photo, I think, when they were in orbit around the Moon about Christmas of 1968. It was a very spooky photo, that's probably why it reappeared so often in wall calendars and textbooks and children's books.

I had some notes about that picture in different places but I seem to have lost them all, except one in pencil on a piece of yellow tassel-edged

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paper from a pocket notebook. That note says: "Earth over green Poseidon Moon, the waves of imagination about to break."

For several years I have not been able to find that photograph. It isn't in any of my books or calendars, no one I know remembers it, and the keepers of the photos at NASA and the US Geological Survey send form letters and order-pamphlets tacitly denying the existence of any such photo. I called the Geological Survey twice about it; they'll get back to me. I worked in a book shop once, and people would come in saying things like, "Do you have a book, I'm not sure what the title is or who wrote it, but it's a green book. Do you have it?" My gibbous Earth is a green book to the clerks at the photo banks, I suppose.

I want to get things as clear as I can, here. Something extremely fuzzy is going on in the universe, and the only way I know of to burn off the fuzz is to lay things out as unambiguously as possible. There seem to be horrendous obstacles, not the least of which is the nature of reality itself. "Nature" and "reality" seem to be identical terms in a way, except that I remember that gibbous Earth quite naturally while only one scrap of paper exists to suggest it ever inhabited the natural world.

The events take place in categories something like this:

*Memory 1*

Several times between 1970 and 1985, I saw a picture of a swirling blue Earth suspended in its gibbous phase over a sea-rough greenish moonscape. I remember the picture from a wall calendar I had when I was an undergraduate in college. I had a room in a tenement near the university. The walls were covered, or partly covered, by tattered yellowish wallpaper, and there was a volcano in the ceiling where water seeped through during torrential rainfall. I had an old twin bed on the floor with a red nylon sleeping bag, a three-legged nightstand with an old white lamp and a stack of books and usually a bunch of tiny, nasty joint-roaches by the lamp. A cheap, threadbare, oval brown rug on the floor.

When Cindy slept there she would require me to have my way with her on the rug rather than the bed, which was the original mattress of the princess and the geode. Once when I was more or less exhausted of this activity, she started talking about the gibbous Earth and sea-Moon. She

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could see it from where she was lying, and the idea of the "Earth" suspended in "space," and all the attendant imagery of motherhood, sex-objectivity, naturalness, goddessness, and her speculations on what time of the month she herself might at that moment be inhabiting, all coalesced for a little while in her mouth.

I admit even from this distance that I don't remember everything she said. I become drifty after rigor sexus, not as completely conscious or thoughtful as I might or should be. But I recall that time, the whole of it rather than the fine details, particularly clearly. She said the Moon is not what you think it is. I said (I believe I said this), what do I think it is. She said, you think it's an agglomeration of rocks, but it only seems that way because that's what you've been expecting it to be for well over two hundred years.

I've been expecting it?, I might have said. And she either ignored this or I did not actually state it, and she said, the Moon is a tremendous Goddess who sprang from the sea, you can tell by the shape of the waves in that photo.

By this time I was feeling too sticky to actually pass out and so I got up naked and went to pull the blinds shut. The calendar was next to this long rot-framed window, and I studied the picture for a few minutes while she lay there on the rug watching me and the photo. I said (I'm quite sure), the astronauts who took this picture never got to step foot on the Moon. Imagine being that close, actually in orbit there, but not going down to touch the place.

Later one of the astronauts actually returned and walked on the Moon. Or, I think he did. This is the way the textbooks are telling the story now, but that's another uncertainty I will try to sort out. Cindy, in any case, did not last much past that afternoon, for whatever reasons. Maybe I remember that time so vividly because we parted ways so soon after that. Her breasts were profoundly beautiful orbs that launched a thousand Apollo spacecraft.

At that time, the gibbous-Earth, sea-Moon photo existed.

*Memory 2*

During the middle 1980s I worked as a technical writer in one of those nebulous all-purpose businesses whose primary product or activity even

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the FBI could not find out. In my cubicle I worked mainly on lesson plans for training programs in nuclear power plants. I am quite sure, although less sure than I am of the powerful associative memory inspired by Cindy's naked flesh, that the gibbous-Earth, sea-Moon photo was pinned to the partition over my computer keyboard in my cubicle. After a while it disappeared.

When I noticed it was gone, I asked Larry, in the cubicle next to mine, if he had seen it or taken it. At first Larry just stared at me, which was his way of greeting me. Then he said no, which is his way of conversing. So I said, do you remember this photo. He elaborated by saying no.

Again, for the sake of clarity, I should say why I'm so sure this conversation took place: On that afternoon two administrators suggested to me that I might want to think about my future. I had no idea what this meant. In administrative talk it could mean one of two things: 1) They wanted to promote me because they thought I was competent or committed to the business, or 2) they wanted to get rid of me because they thought I was incompetent or dangerous. Because my conversation with them was so nebulous, circuitous, filled with incomprehensible innuendo and logical dead ends, I have remembered it vividly, although almost devoid of any detail at all, even visual. I can't even remember what room we were in during this strange discussion. But the strangeness, the unnaturalness of it, caused me to remember the exact words of my conversation with Larry.

I kept working there, although perplexed about it, for a few more years, but Larry left very soon after that. In between I questioned Larry persistently about the sea-Moon photo, but he maintained to the end that, not only had the photo never been pinned to the curly fabric of the partition, but it never existed at all. This was about the time I began to search the astronomy textbooks and the old magazines and calendars, and discovered that no such photo existed.

Now as far as I can tell, this sea-Moon photo does not exist. In my mind it is as clear as day. In reality it has vanished, the way a dream vanishes as you wake up slowly and realize you are not actually feeling Cindy's, or some unknown woman's, breasts, even though they have been as real to you as the cool skin itself.

* * *

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For a long time I explained to myself that I had dreamed of the photo. During one period of time I circled uneasily around the possibility that I believed I myself took the photo in a dream, or at least saw the sight myself from an imagination-concocted dream-tour in Apollo 8 with Lovell, Borman, and Anders. The possibilities in such a universe are almost limitless, which is exactly the danger of the world of dreams.

*Memory 1*

For example, in 1972 (and mind you, I recall this as if it actually happened, because my memory tells me: this actually happened; but you have to take a recollection like this at its face value, which is to say, its figurative value) — in 1972, I for months reported to friends and acquaintances that Mick Jagger and his wife Bianca had been killed in an earthquake in Brazil. My video-memory had a detailed tape of an evening news report with voice-over and home-camera footage of buildings crashing down, plaster exploding from ceilings, dark men with mustaches and round-faced women with kerchiefs screaming and running for cover, dogs and children scrambling every which way. "Mick Jagger, who was in Brazil on vacation, and his wife Bianca Jagger were killed when their hotel collapsed during an earthquake in Brasilia. The quake registered 5.4 on the Richter scale."

*Memory 2*

This later turned out to be some sort of fantasy. *Exile on Main Street*, I reasoned at first (and argued to my friends and acquaintances), had been recorded before the Brazilian vacation. But then more Rolling Stones albums appeared, and I actually saw Mick Jagger on television one night lip-synching "Angie." I remember this because I was under the influence of hallucinogenic mushrooms, in a dark apartment living room with a woman named Debbie who I never saw again after that. I remember trying to explain to her, fully clothed, that this could not be Mick Jagger because he was dead. This was a matter of high hilarity to Debbie, and I could not convince her of the seriousness of such a discrepancy between fact and reality.

The only possible explanation I think of — or live with — was that I had dreamed so vividly of an earthquake that I had taken the dream for

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reality. I comforted myself with this rationalization for many years, up to the time the sea-Moon photo vanished. Now I am not so sure what happened. I think Mick Jagger may actually be dead.

*Catalogue 1*

NOT ONLY DID I believe Mick Jagger had died, but at various times, for various lengths of time, from a day to weeks to well over a year, I also believed the following:

Tom Landry, coach of the Dallas Cowboys, died of a heart attack in 1973. Jim Morrison was interviewed by David Frost in 1975. The last eight cantos of the *Divine Comedy* were written by Dante's son. Passenger rail service was available in Burlington, Vermont until 1981. Studies of organic material from meteorite fragments matched DNA samples from several species of arachnid, leading entomologists and chemical biologists to conclude almost to a certainty that insects evolved prior to and separate from all other Earth organisms, meaning somewhere in outer space. Someone found out that Whitley Streiber was telling the truth. The AIDS virus was discovered to be a form of the common cold, communicable by doorknob. Stephen King died in a car accident on a small bridge near my house in Maine. No such person as Rick Derringer ever lived. Michael Jordan scored 63 points in a playoff game against the Boston Celtics. The Apollo 13 mission to the Moon was aborted because an oxygen tank exploded in the command module, causing a dangerous fire, and the astronauts returned to Earth by using the lunar module.

The last two items in this catalogue are the most disturbing because of the peculiar factual quality of my recollection, similar to the peculiarity of my memory of the photo. Anyway:

*Catalogue 2*

Tom Landry coached the Dallas Cowboys until he retired in the late 1980s. It is still historically uncertain, but extremely probable, that Jim Morrison died in a bathtub in France in 1972. Dante's son actually did write the last eight cantos of the *Divine Comedy*, but then dreamed that the manuscript of the lost original cantos was locked in a trunk in an attic;

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he woke up, ran to the attic, opened the trunk, and found the manuscripts in Dante's handwriting. Passenger rail service to Burlington ended decades ago; this was surely some kind of fantasy from when I had no automobile but was insanely in love with a tall dark-haired woman named Acie who made clay models of pots and lived in Burlington. The theory that insects came from outer space is based loosely on the fact that their composition is radically different from all other Earth life, and that there are almost no sea species of insects; since life is believed to have evolved first in the sea, it would stand to reason that there would be many aquatic insect species; there is, however, no hard evidence suggesting insects are space aliens. No one knows what goes on in Whitley Streiber's mind. The AIDS virus is still an enigma; probably this was a fantasy based upon something frightening Acie told me about her previous relationships, and what she was at that time refusing in principle to undergo. Stephen King, as anyone who reads the newspaper can see, is still writing three or four books every year. Rick Derringer did or does exist, it's just that he looks completely different in every photo that was ever taken of him; I met him in a bar in Boston where he was playing guitar with a thrash band called Metamorphica.

*Memory 1*

I distinctly remember reading an anecdote of W.B. Yeats in which he recounts walking along a path with friends, perhaps in Coole Park, and being flooded suddenly with recollections from his youth, in vivid detail. Later, wondering why these apparently disassociated images overcame him at that moment, he traced his memory back along the path and discovered that the recollections struck when he smelled the acrid odor of swans' excrement from the pond nearby. He reasoned that this same odor he smelled as a child in Sligo had triggered forgotten events still living in his mind.

I have in my mind a sharp visual image of the book, typeface, and place on the page where I read this years ago.

*Memory 2*

When I go to this same book, and to other books in fact, searching assiduously for this anecdote in Yeats, I don't find it. It seems to have

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vanished. I find instead an account in one of his essays, on a different page, in a different book, of his sitting at a desk writing, dropping his pen, and upon leaning down to pick it up, suddenly being flooded with childhood memories.

I am afraid to check this second version of the memory, however.

*Memory 1 and Memory 2*

My memories of Michael Jordan and the Apollo 13 mission are extremely doubtful, however. It is emblazoned on my mind, for example, that I watched on television in late April or early May, during the late 1980s, a basketball game, played in Boston Garden between the Boston Celtics and Chicago Bulls, in which Michael Jordan scored 63 points and the Bulls still lost the game. If you check the newspaper box scores for those years, however, you will find no playoff game in which Jordan scored 63 points. In fact the record for points in a single playoff game is 61, which Elgin Baylor scored in 1964. It's in the record books. Look it up.

The great frustration here is in 1) distinguishing reality from what you have imagined, and 2) imagining how you came to imagine what you have obviously imagined. There is something maddening about the Moon. For a long time in a photo a gibbous blue and white Earth overhung a grayish-green sealike Moonscape (1), and (2) there is reason to believe that at one time, before now (when the opposite [so to speak] is historically verifiable), Apollo 13 did not land on the Moon because of a fire in the command module during lunar orbit. The reason for believing that this might have been the case springs from what Larry said.

*What Larry Said 1*

Larry left his technical writing job a week or so after the administrators called him into their office. The things I remember about the administrators are 1) how clean they always looked, and 2) how young they seemed. The men always wore blue or gray suits that seemed like marble or obsidian rocks of some sort arranged, carved, and polished over their shoulders, backs, arms, and legs. Their hair was always in the shape of the Old Man of the Mountain. The women always wore loose but tucked-in shirts or feminized suit jackets, more like quartz over their chests. Their hair was like pumice. They seemed to be completely sexless,

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except that occasionally there would be one who seethed like Io, or more likely Triton because its surface is colder. And if you carbon date an administrator you will always find that she or he is under 35 years old, even the ones with gray hair and furrowed faces.

The persistence of these images explains why I remember so clearly what happened to Larry. The same two administrators who advised me to think of my future came one day and took Larry to their office. He was in there a long time. When he came out and sat in his cubicle, I asked him what happened. He explained: nothing. After a few seconds he said: I have something else to do, anyway. About a week later Larry was gone.

Sometime later, weeks or months, Larry called me on the phone. This is what he said, and you'll see why I've told you about his disappearance from his cubicle:

"Jim, I've been in Virginia working at the Madison Institute."

"What's the Madison Institute?"

"It's a research facility for the study of out-of-body experiences." There was a long silence. I was not sure how to encourage him to go on, as with Larry it was always necessary to persuade him to keep speaking. Finally he said: "Well, anyway, remember when [here he mentioned two administrative names which escape my memory] took me in their office to fire me? They heard I wrote an article for *Omni* magazine about Madison experiments with traveling back and forth in time. They thought [here he mentioned the name of the company, which I would be afraid to mention even if I could remember it] employees should keep a lower profile, and stay out of paranormal research or interests."

There was a big, long silence at this point. Then: "Well, anyway, I've been working at Madison for several months. About your green Moon, Jim. I'm not saying that photo ever existed, don't get me wrong. But there's something you should know about Apollo 13."

"What, then?"

"There's a woman here who remembers the same thing you do about the explosion in the command module." I was quiet, too. Then he said: "In fact, she thinks she knows what is happening with these memory lapses you're having."

"My memory lapses?"

"Well, not exactly. But you understand that, in reality, historically,

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the Apollo 13 command module successfully landed at Fra Mauro and picked up fragments of breccias several kilometers from the landing site. There is no doubt about that. Don't get all fuzzed over by doubting that, will you please?"

"Okay."

"But there is some evidence to suggest that another version of the facts of space exploration shows Apollo 13 had an oxygen tank explode and the astronauts crowded into the lunar module, made a swing around the Moon, and came back to Earth on the food and power they intended to use — or did use — while they were on the Moon. They discharged an S4B stage of a rocket and made an impact on the Moon's surface which was detected by a seismometer Apollo 12 had left at Oceanus Procellarum."

"This all sounds very familiar."

"Honestly, Jim, it's not factual, though. This woman at Madison claims somebody has been going out of body, traveling in time and demonically possessing historical personages."

"Hey, demons are one thing I DO NOT BELIEVE IN, and don't get me going on it."

"Not demonic exactly, but possession of people who lived in the past, and by getting inside these people and substituting his own creative mind or will for the real people's, this traveler alters historical events. Somebody inhabited James A. Lovell Jr.'s body during that Apollo 13 trip and intervened to prevent the explosion and fire, and the trip was successful after it had already failed."

Now there was more to this conversation, but I can't remember the exact words. You can imagine my skepticism, and my shock. Larry was saying that historical facts change, and that I somehow had a wiring short-circuit which was causing me to remember both the original and the revised facts. I was feeling like Winston Smith in *1984*, revising history daily, changing the old newspapers to prove the current editions, but all along remembering the original news. People appearing and disappearing in history, and in one's own private life, images blooming with tremendous force in the mind and affecting the whole of one's real psychic world, then withering away or simply vanishing, with no indication of whether

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they had been real images or dreams, real, physical human beings with cool skin, or merely pro-active dream-creations.

*Hypothesis 1*

Larry's story could be acceptable to a flexible mind like mine if it had not included a cause, especially causes originating with human beings. If Larry had called up to say (now I am hypothesizing — this following should be construed as a necessary fiction, not a new version of reality) that the universe is actually an ovoid crystal which got cracked early on in the process of genesis, and that human consciousness can travel along the cracks in the crystal, choosing this or that avenue as it proceeds in its own linear spacetime, but not nullifying by its choice of habitation the actual reality of other cracks, then I would have said, okay, so the Apollo 13 spacecraft both did and did not have a fire on board the command module in April 1970; how did this woman's out-of-body experiences help her figure this out, and why do I remember both events?

But the idea that past, established history can be changed by human beings is a matter for grave concern. The concerns are that: 1) An incompetent human being could pass backward in time to possess, for example, St. Paul, and completely distort and debilitate the tenets and force of Christianity or some other necessary human institution, and 2) one's own personal history suddenly becomes doubtful. Did some time-traveler rearrange Apollo 8 events so the photo of the gibbous Earth and sea-green Moon never got taken? And worse, will someone get hold of Acie and actually expose herself to the things Acie only imagined she had exposed herself to? It becomes possible, for example, that the AIDS virus can, by a manipulation of human event, suddenly be a doorknob virus; or your girlfriend or boyfriend from years ago, even though you remember her or him to have been as chaste as the white cliffs of Dover, could in (new) reality have injected heroin for a time in San Francisco, or slept licentiously with bisexual men and women all over Manhattan.

If the past can be changed by human agency, which is always faulty, then the conditions and possibilities of your mortality are for all intents and purposes completely random because they could be changing constantly with the changes in the past. The conditions of your recollections of pasts and your apprehensions of futures are more like waves, up and

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down, sometimes whitecapping and sometimes smooth, in the open ocean.

This is nearly intolerable.

*Hypothesis 2*

In order to end-run the plausibility of Larry's report, it is necessary to regard it as fiction. If Larry's facts are fictions, then the second hypothesis, which is more tolerable, is not that history is alterable, but that it is unalterably diverse. For example, Michael Jordan did indeed score 63 points in a playoff game against the Boston Celtics. Apollo 13 did indeed fail to land on the Moon.

*Problems of Hypothesis 2*

There are, however, several misleading ways of stating this hypothesis. One is to say, "History is not written in stone." The problem here is clear enough: The phrasing is merely a cliché. Most people will take it to mean that history is written by the rich and victorious, and that politically disempowered groups have a right and a duty to tell their version of history, too, and that no one's version is strictly "correct." This is bogwash. All accounts or theories of history which can be referred to the phrase, "history is not written in stone," are as completely invented, and materially caused by human beings, as the accounts of history they purport to supplant, and they have no bearing on what is really happening in the universe. This notion is no more plausible, as a description of reality, than Larry's demonic time traveler.

Another misleading way of stating Hypothesis 2 is to say that the universe is in reality an ovoid crystal of some kind which has cracked. It obviously is not. Although never, except at the moment of their blossom, verifiably real, still, touching Cindy's skin and seeing her litheness on the rug contain the germ of reality, the way the color and transience of summer flowers are practical displays of the germ of what reality actually is. The flowers are verifiable by patience — summer and color always return — while Cindy's body is not, and often one feels that a woman's skin will never be verified again (though this, too, is an illusion of nature). Nature is. *What* it is is not clear. But it is not, reasoning from these examples of dreamlike fluctuations, appearances and disappearances, a

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crystal. Saying the universe is an ovoid crystal is like saying the Moon i made of green cheese.

The Moon is made of rocks which shift in detectable quakes. All th successful Apollo missions returned to the Earth from the Moon witl different kinds of rocks. Of particular interest are the breccias, which ar broken fragments of meteorites that smashed into the Moon and broke u only to be compressed and cemented together with pre-existing Moo material, forming new rocks, the breccias, millions of years later. This i verifiable and somehow satisfying information.

There is a misleading way of using this information, however. Yo might conclude from it, by analogy, that history is unalterably diverse i the same way scientific knowledge becomes more unstable even as i seems more certain. While Moon-rock information itself seems ver concrete and unalterable for now, future missions to the Moon migh reveal it all to be false, derived from unusual samples and inferred fro defective assumptions about the nature of rocks. Moon rocks, for ex ample, might in some future scientific discipline be shown to be con scious beings. (I'm not proposing this as a hypothesis, only as an extrem example of the possibilities inherent in the universe in general.) Th concrete knowledge of science comes and goes as variably as the differen versions of history, or as the recurrent summer flowers, or as sexua intercourse, or as a dream. Isolated facts are factual only for an instant, i you take the rock-strewn surface of the Moon for real.

*The Most Nearly Accurate Way of Stating Hypothesis 2*

Saying "history is unalterably diverse" is the same as saying al history is unalterably unified, because individual events are meaningles in a universe where diversity is total and complete to the last possibility. If Apollo 13, in other words, both did and did not land on the Moon, then the recollection of one or the other event as "factual" is completely irrelevant. It doesn't matter which one you remember as a fact. Further- more, the recollection of both, at times when the wiring of memory crosses and currents leak in from other sectors of the historical unity, suggests not that the individual wiring is frayed, but that reality is single: Simultaneous, mutually exclusive events inhabit the same, one placeness.

This means that the more concrete something is, the less real it is.

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The most swoon-inducing sexual experience very rapidly becomes real only in memory, and stays there. The memory of Cindy's skin touching mine, or my line of sight touching her skin, is afterward more real than the event itself. The event pools somewhere with all the other events of not touching Cindy's skin — which one vividly imagines after Cindy has left one's life for good — or not feeling our bellies touch, or not smelling the slightly soapy, slightly sweaty back of her shoulder and underarm.

And it is not that the whole universe exists only in your mind, or that only your memories are real, or that the universe is a vast dream of God. These ideas are as facile as "history is not written in stone."

Each particular thing and event, taken by itself, is immaterial. The whole of what we take to be reality, rocks and all — especially rocks, especially Moon rocks — is an illusion, and this is a tremendous comfort. The world, when conceived as an illusion, is far more meaningful than when conceived as reality.

*Photographic Memory*

There are two more things to report, and I will offer you the peripherally related information that I have not had a job for nearly eighteen months, and so have had time to contemplate things. Not having a job is not much different from having a job, at least so far as I can remember. There is a problem about money, but it seems to go away.

I live in a small apartment near downtown, and my street is relatively quiet. In the evening I can see Venus burning like a flare over the houses and chimneys. My memories of Cindy, Acie, Debbie, and so forth become at different times and stages of the day torments, curiosities, objects, obstacles, or tremendous symbols of metaphysical constructions which I understand only until I begin to talk about them to myself, writing them down or whatever.

There is a south-facing window in my living room where the Moon shines through during winter months. The amazing thing about the Moon is 1) its constancy, how it grows then thins and disappears, then grows again and thins, and disappears, without hurrying or lagging, ever, and 2) its impermanence, how it never inhabits the same part of the sky two nights in a row, and completely disappears from sight depending on what part of the day you are awake to look.

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I now have proof that 1) the green Moon photo has existed, or does exist, and 2) the Moon is not made primarily of green breccia. My proof derives from two sources: 1) what Larry said in a second telephone conversation, and 2) what happened about two weeks ago.

*1. What Larry Said 2*

I REMEMBER ALMOST ALL of what Larry said, and I'll report his words so there can be as little room as possible for misunderstanding or misanalysis.

When the phone rang I was sweeping grit and pebbles out of the kitchen trying to forget something I had remembered earlier in the day. I probably remember Larry's words so vividly because they disrupted a disturbing memory of Acie, which would not go away. At first I was not sure if it was Acie or Cindy, but I saw it must have been Acie because it happened while I was working in the book shop. I worked in the book shop on weekends and traveled to Vermont during the week.

Acie was reading about the Mars monuments at that time. She stared at Geological Survey snapshots of the surface of Mars which the Viking orbiters took in 1977. One particular place on Mars has a configuration of eroded pyramid shapes which seem aligned geometrically with another shape that resembles, for all the world, a giant human face staring up into space, with hollowed eye sockets, crumbling cheek bones, and a chin and linelike mouth. One group of speculation-minded scientists believes the pyramids and face may have been constructed by aliens. Another group of science-minded scientists believes the recognizable shapes are accidents of erosion and lighting. Acie made clay models of the face, pyramids and a nearby ridge which appears to have a road or level area excavated across the face of it.

This is what Acie did: she took photos from directly over her models and then in the developing softened and fuzzed them a little bit to make them look like Viking photos. Then she challenged me to choose the original photos of the face, pyramids and ridge.

This is the disturbing thing: I could not distinguish which was which, although she had for weeks beforehand forced me to look at dozens of different real photos and explained her theories of alien spacecraft and

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motives far into the night, night after night. Then one night I had a dream that I was a boy living in a small village on Mars, and I found a vaguely human sandstone face poking out of the wall of a sand pit. Someone had been there already, thousands of years earlier, and left artifacts.

All this was profoundly disturbing. I remember becoming crazed with frustration and fear, and I screamed at her to stop playing games with my mind. Not long afterward my mother called to say my aunt, who when I was a boy taught me to pick out constellations, had died. Maybe about that time I stopped going to Vermont.

I would rather forget all that, but I can't. Some events, and even people, are very uncertain, and yet others are so persistent they seem like cement hardening; suddenly you realize you can't move it anymore. That day Larry called I was sweeping the kitchen crazily, and I was relieved to hear his voice.

He said, "Jim, this is Larry Ferry."

"I'm glad you called, man," I said. Then there was a short silence that seemed tense to me. I wasn't sure if I was meant to ask questions or not.

"Well, anyway," he said, "this woman at the Institute."

"What?"

"This woman at the Institute thinks she's drawn a bead on what's actually happening."

"What do you mean, 'what's actually happening'?"

Then there was a longer silence, and I thought I heard voices, as if Larry had put his hand over the telephone receiver.

"Are you okay, Jim?"

"What are you talking about, anyway? If you mean have I found the green Moon yet, the answer is no. If you mean do I remember it, the answer is still yes. Yes, I remember it."

"The trouble is, it's not as simple as that," he said.

"Well how complicated is it?"

"This woman is now describing how this person travels backward in time. She says he's a kind of alter-consciousness, which is hard to understand. I'm not sure I get it myself. She says time is shaped like two parabolas, or two cones, touching each other at their apexes. Inside the parabolas are the past and future, and outside the parabolas is... Well, I'm not sure what's outside the parabolas."

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It was quiet for many seconds. Then Larry said, "Jim, are you still there?"

"I'm not sure what you mean by that," I said.

He was quiet again, and then he said, "Some man from she doesn't know where or when bends himself across the outside of the parabolas and assumes an alter-consciousness in some other part of history. The lower part."

"How does she know this?"

"Her own alter-consciousness has bent through the parabolas four or five times now."

"What does this have to do with the green Moon photo?" I said.

"This alter-consciousness probably inhabited James Lovell's body on the Apollo 13 mission."

Then we were quiet for a long time, it seemed like minutes. You could hear the crackling in the phone, far in the distance. Finally I said, "Do you mean this alter-consciousness or whatever he is could get inside St. Augustine or somebody and disrupt all of human history?"

Larry did not answer right away. Then he said, "That's one way of saying it, I suppose. We were hoping to keep that possibility a secret for now."

I said, "I think you mean that the collective human recollection of history changes when this renegade time-traveler changes events."

"Yes," Larry said. "Well, he doesn't actually change events. He just shifts our memories around inside the lower parabola."

"Larry."

Larry did not reply. There was only some crackling.

"I'm scared, man."

"Jim, you've been scared for a long time. You just didn't know it."

I hung up. I don't know if any of this could be possible. I do not believe in demons, space aliens or lesbian psychics.

I do believe in parabolas, though.

What Larry said sounds to me like the compressing and cementing together of Minkowski spacetime with pieces of quantum mechanics. Diagram the relative continuum as a big X where the upper inside of the X is the future and the lower inside of the X is the past, and the two outsides of the X are nowhere, or simultaneously, everywhere, the place

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of quantum physics' many-worlds, through which photons of light place information with each other instantly, with no lapse of time, from one location to another, as if one location was at another. This is where Larry's parabolas live.

Why couldn't your mind slip over into the great everywhere sometimes, and sometimes be awake in the great collective unconsciousness where we are all equally ignorant of everything?

No one of these things makes any sense at all, the Madison Institute, a renegade time traveler, a woman discovering the secrets of consciousness, Minkowski or quantum physics. But all together, in a single ball, what happened two weeks ago aligns with all of it, and all of what Larry said. I'm not saying I believe any of it.

*2. What Happened Two Weeks Ago*

I was sitting in the chair facing my window, watching the gibbous Moon rise over the laundromat across the street. It was a very beautiful Moon, this was something I could be very sure of. Naturally I had associations of other beauties, of Cindy and Acie, and of certain works of art which appeared in fuzzy images in my mind, images resembling Monet's water lilies because they could not be described exactly.

It's difficult to say what happened. There was a field of memory, like a shoreline swaying against the glistening blue of the ocean, and I felt I was reaching for something hard and precise directly in front of me. I felt I was almost smothered, or at very least my arms and legs were engulfed in something puffy and cumbrous, so I couldn't move. In fact my legs felt strapped down and this caused a mild claustrophobic panic in me. I could move my arms but only inside this puffiness, as though I had been absorbed into rolls of plastic bubbles. A metal collar was not touching, but restricting my neck and causing me to imagine my breathing was impaired.

I was reaching out toward some large panel-like object, feeling very light but at the same time immobile, the way you feel when playing a walkman tape player in your ears while you move through a busy crowd, isolated but snug in a distinct and hopeless personal world of music and pavement. The panel was actually a panel, I saw, with rows of instrumentation, some glistening and some glassy, and I saw my arm reach out for an old-fashioned metal knob switch.

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On my right two other men were sitting, talking, restricted in the same way I was. There was some kind of laughter. Then a radio voice came into my ear: Roger your photo mission, Jim, that's a go, over. Then I was quiet, listening, and a man's voice next to me said: Take your pictures for the family album, Big Jim, and there was more laughter.

Floating before my eyes was a Polaroid camera. I reached out and took it, and then I became aware of something massive and dark. It was the presence of a nightmare shape which threatens to crush you, threatens your extinction. The darkness of it, the way the surface of the water puffs and wells a moment before a whale emerges like a monster beside your boat, terrified me.

It was a window into space. I now saw before my eyes a semicircle of swirling white, white swirling over a deep blue. It was the gibbous Earth, suspended in space. And moving slowly beneath it was the surface of the Moon, its horizon curved gently downward on either side, under the Earth. I pulled the camera to my eye — it was cold against my skin — and aimed it out the window. There before me were the grayish craters and mountains of the Moon, and over them the Earth, more alive, there against the blackness, than anything I had ever seen. I got my finger onto the button on top and pushed it down. The shutter clicked in my hands, a satisfying sound, and I felt the instant vibration of the camera. I shifted the lever with my thumb and heard the film crank forward, then pushed the button down again, and heard the click of the shutter again, feeling it vibrate again in my fingers.

But something was disturbed, here. It was not the living blue and white Earth, that was not it. I said to the two men beside me, Look at the Moon. They kept silent. Out the window, the Moon began to seethe and undulate, and as it became clearer in my vision, the surface yawned and almost steamed with an indescribable litheness, as though the entire ball had come alive. There was a moment of some ineffable speaking, when I heard or saw what you might hear or see if you could isolate that part of your mind which unfolds during sex, or maybe for women, during parturition, it's not clear which. And it's not clear it was even the language or image of human activity, but just some systolic-diastolic disclosure unattended by problems of description or concretion of any kind.

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The Moon's rocks, I am saying, were a living flesh of conditions, more detectable and memorable than skin. It was a condition or state of lushness, embodied.

In a second tears began to roll out of my eyes and under the metal collar of my flight suit. It was the living, conceiving Moon.

This strange event aligns precisely with what Larry said. I have not located the sea-Moon photo, but I am reasonably sure I was the one who took it. At least, Larry's story strongly suggests I took it, even though I feel some slippage in these memories, as though a block of raw granite had taken form in the air and hung there for a few moments, gray with tiny white glistenings, then dissipated after a few seconds, like a voice or an echo of some voice. Certain memories are monuments, and my note about the Poseidon Moon, which antedates even my acquaintance with Larry, is a monument clearly implying that the gibbous Earth and the sealike Moon existed before I knew Larry, or the nuclear power industry, or Cindy, or anything this side of my first post-adolescent coming of consciousness, when that photo was first published.

Two problems remain, even if what I believe can be believed. The first is that Larry's story implies not only that I took the photo of the green Moon, but also that I am the renegade time-traveler who is re-arranging events. I cannot believe this. To believe this is to believe also that I think and do things which I do not remember doing. It means I cannot remember where I have been, or who I have been. Think about it. This is intolerable. I do not accept this implication, and prefer to believe in an agent of cosmic evil.

The second problem, in any case, is that the future is extremely uncertain now that we know inept consciousnesses are capable of inhabiting and redirecting the material events of history. At least in our collective recollection. (I was somewhat panicked to read a passing allusion in a recent newspaper recalling "Ronald Reagan's two terms as president of the United States." This cannot have been correct, of course. I fear researching this allusion, however, in the same way I fear researching my second memory of Yeats's account of his involuntary childhood memories.) The small things, such as if the green Moon photo was taken, or who took it, do not seem macrocosmically significant. But it is not

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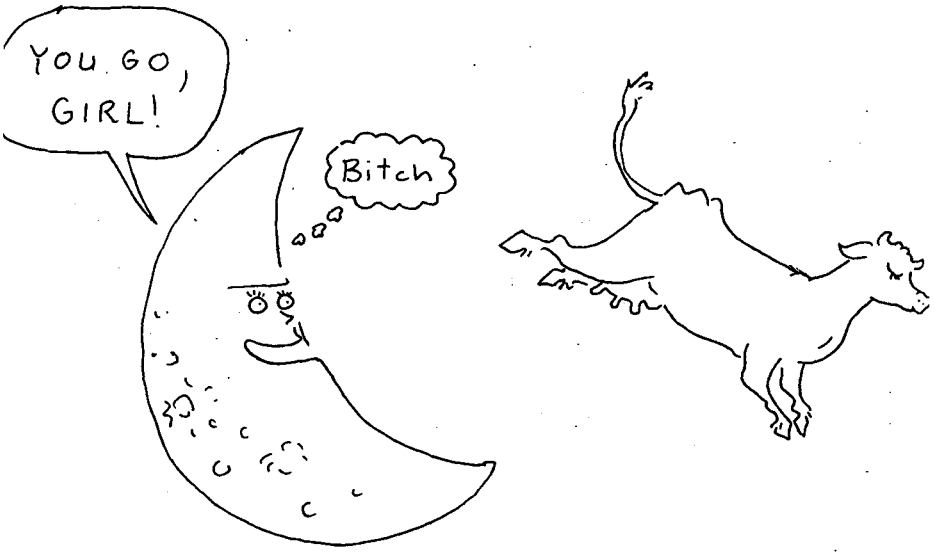
clear, on the other hand, what effect the failure of Apollo 13 would have had on space history, had it happened here in this line of consciousness, or even what kind of Moon would have been discovered if certain influential scientists had been searching the Moon, or even Mars, for something other than rocks.

All historical reality, past and future, is now as probable as it is improbable. In it, one disturbing, though not horrific, thing after another happens without cause or impetus, and I feel always that I could somehow get control of what is happening, but do not quite know how. This has scared me for a long time.




THE WOMAN IN THE MOON

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*Michael Shea is the author of such novels as* A Quest for Simbilis, I, Said the Fly, *and most recently,* The Mines of Behemoth. *He contributed a number of vivid and often affecting stories to us in the 1980s, including "Polyphemus," "Uncle Tuggs," and "The Autopsy." At the moment, he's working on a sequel to his novel* Nifft the Lean *entitled* The A'rak. *Here we bring you a fantasy tale from the darker side of life.*

# for every tatter in its mortal dress

## By Michael Shea

An aged man is but a paltry thing —
A rag of flesh upon a stick, unless
Soul clap its hands and sing, and louder sing
For every tatter in its mortal dress!

—W.B. Yeats

WHEN I CAME OUT OF THE pawnbroker's, I found that a little old man had chained his leg to the rim of one of my pushcart's wheels.

"Rat crap!" I shouted, "What is this?"

The old man looked down at the cobblestones stubbornly. Silence.

It was near sunset. At the precise moment the sun sank, I was supposed to be at the palisades to meet my zounce connection. The old man stood still as I searched his pockets, and somehow managed to ignore me completely while I did it. He had no key.

Let him be damned, I decided. After my connection I would find a smith. I shoved off the cart and we set out down Sevens Lane. The wheel

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the little old man was chained to gave a regular jolt as it went over the iron collar.

"You might at least have chained it to a spoke," I snarled, merely to relieve my feelings, for I knew words wouldn't affect him. He marched along still ignoring me.

We turned on Wraith, where I spared a moment to hustle the fishwife to buy one of the rings I'd just got from the pawnbroker. She wrinkled the wartless half of her nose.

"Frippery. What about pictures?"

"Five lictors for a scintillating deck of twelve."

"Bah!" shouted the little old man, startling both of us. "I've viewed them, madam. Softcore cartoonery. Not a hard-on in the lot."

The fishwife spat on the ground and bought two decks. We started off again, the wheel still limping. "A smith will soon set us right," I told him. "Impudence! *Why* is all I ask. What am I to you?"

Of course he didn't answer, or even glance at me. And after some moments I decided: why struggle? Soon I would cut him loose. Meanwhile, in civil conversation, something might be gained from him — a bit of news, some arcane fact, an anecdote. For I always try to approach situations constructively. I searched for a topic. After a minute I said:

"Ah well, the world does go oddly on. Perhaps you can confirm what I've heard — they say that Death is back in the vicinity, and perhaps even in the town."

The old man shivered in the dark breeze.

"When was he here last?" I continued. "Not since last spring, a full year ago, it seems to me."

This got an answer, though the old man didn't seem to be addressing it to me: "Death was here two months gone," he told his feet. "At the Smugglers Hall during the winter dramas. He slew full half the guild."

"Just so," I said. "And now I think, he came in the fall as well. Yuley Wiper the herdsman and all his flock were found scattered through the highest branches of the trees round Pastor's Common."

"He came twice in the summer," the little old man said with a quick glance behind him. "At second sowing he came in the form of a dream contagious to the old. And then again at early harvest he came as a penny-

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ballad man, and sold love-songs with fiend-summoning spells imbedded in the lyrics. Nubile girls suffered most."

We turned down Firkitt, which the dusk made crookeder with shadows. The little old man was terribly skinny. He seemed almost to vibrate slightly, like a hollow reed in the wind. I suddenly felt that death had been a tactless topic, and was silent.

But after a short time, as we neared the palisades, the little old man sniffed the sea air with gusto. Flinging out his arms he embraced the world at large. "This is the choicest style of life!" he exclaimed. "To move about! To circulate! It is a marvelous stimulant to the mind. It aids digestion, and promotes ample and regular bowel movements. In truth I've always felt it," he concluded admiringly to himself. "I've always scorned the sedentary and the constipated. I've made the right move!"

We had reached the palisades. My cart rolled smooth as a boat over the grass of the cliff top, which softened the wheel's limp. I felt high in advance, steering among the tree trunks toward the brink of the grassy cliff, with the leaves of the pungent silvergum rattling and splashing in the wind, all gilded.

The sun was two-thirds sunk, and there leaned Kirp against a cliffside tree ahead. I leaned blithely on my rudder, coasted in and docked near, so to speak, the little old man bobbing alongside. I snapped down the cart's kickstand, and told him: "Kindly sit on this side of the cart. View the sea." I pointed to where it stumbled in, two hundred feet below. "We will be off again instantly." Then I stepped over to Kirp.

"I managed four knuckles of excelsior," he said.

"Princely! What sum?"

"Nine lictors and a double deck of illos."

"Equally princely, alas. So be it."

At this point the little old man, straining the length of his chain, howled at us from less than a yard away: "ZOUNCE?! ZOW-W-WNCE? THUGS! HELP! HELP! DEGENERATES!" And pointed at us in horror.

Kirp looked wildly around — the palisades are never empty. The four knuckles which had not yet left his hand, like suddenly live coals, he flung from the cliff. Glaring outrage at me, he fled.

I recall the little old man's face — the only thing I could bring to focus in my dismay. His jaw still flapped on a broken spring of outrage, and he

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grew calm only after he had gasped one grim consummating *ZOUNCE* — locking me up, as it were.

By the time things had focused more, I was sitting near a tree, hugging my knees. My legs had ceased their struggle to reach the little old man, but he was not yet safe. I rallied my raging heart:

"Naturally you feel disturbed. You planned to tour the stars tonight on wings of zounce. Instead you will go to the smithy, to dinner, and to bed. You have been robbed of a miraculous night, perhaps one of those irreplaceable high points allotted to you by your calendar." My heart agreed and blazed within me.

"Consider this old man," I tried again. "There he crouches, half shod, grooming his crooked toes. Though more goatish, complacent, and officious than most men, surely he is like many another whom senility has made vapid and spiteful. Undeniably, he is a man like others then, and as such, possesses values...views. He approves of the peripatetic life. He disapproves of zounce and those who snort it."

"Chained as he is," my heart replied, "he'll be assumed your slave. No one will question your swift amputation of his leg."

"Fool!" I sternly chided. "Let it pass. Call the zounce undestined. We are well-heeled with time. He is a pauper near the end of his hours. And, we'll soon be free of him."

So I shoved off to find a smith. The little old man had to hop like a cricket to keep up.

But the divorce failed. The smith, swearing windily, fractured two chisels and a sledgehammer on the unscathed chain, then he charged me the standard wizard's consultation fee, indicating that recourse to a wizard was the method of spell-unbinding universally preferred outside the fraternity of those who walk around ass-first. The old man warmly confirmed that the chain had a spell on it, as he had said himself from the first. The difficulty lay, he portentously assured the smith, in trying to tell anyone anything these days. When we left he presented the smith with a deck of illos from my cart, exiting with jovial disclaimers.

The next day I spent learning that my two cartwheels were unique in all the city, and no spare existed to substitute for the wheel he was chained to. Only the radical surgical solution remained — a loathsome work. I resolved to wait a while in the hope of alternatives.

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Thus, since my livelihood had to roll, we went my rounds, and he met my customers. Some he liked, and for these he often proclaimed fifty percent discounts from my stated price, pressing my merchandise on them heartily. Those he disliked he utterly ignored, slouching nearby during the sale, and emitting unmuffled flatulences from time to time, to emphasize that he considered himself alone.

Still it was just bearable, and I might have wavered to my ruin, for my purse could not long withstand him. But on the third night, as I copulated strenuously with the fishwife's comely niece, I beheld the little old man crouched at chain's end in my tent's doorway, our avid audience with both hands employed — one of them in holding up the tent flap. That dawn I wheeled us out of town on the north highway, determined to sunder us. He had already ruined two of my best nights, and soured three potentially good days. If I did not act he would just keep on whittling down my life with his senile interferences.

Still I couldn't actually get out the sword and strike. It was too revolting. He was ruinous to my life, but still hadn't done anything to me as directly or deliberately hurtful as hewing off my leg. On we limped up the north road — I plodding with arms paralyzed and feeling the sky begin to lean on me in my bondage like a huge stone.

Meanwhile the little old man didn't like our whereabouts. Trying tact first, he started out by grumbling, asking himself loudly where that idiot was driving us now, and had he forgotten our customers — all as if I lived upstairs, and overhearing, would take the hint. I kept plodding.

So he addressed me directly, but in voice only, staring ahead, his words a sidewards nudge he was no party to:

"Turn us back to the city. This trekking wastes my strength."

It suddenly came home to me that only in the zounce panic, and again as I'd humped the fishwife's niece, had the old man ever looked straight at me. So I watched the road and said aloud to myself:

"Son of a turd, why does the old fart jabber so?"

"Plunderers watch roads like this." He was still looking ahead.

"Ah the open sky!" I exclaimed. "Surely I will walk forever! Farewell sour urban toil, I'll not be soon returning!"

"Plunderers take their daily bread from such roads as this, where a body is so much more conspicuous and easy to spy out. A man has nothing

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that can't be taken, and appetites for every part of him hunt and thrive on just such roads as this." He still didn't see me, and I decided I was mute until he did.

He went on:

"It's a bitter damned injustice. My life takes up almost no space at all. Younger lives are full of roomy corners going to waste. But the damned Foul Snarler hounds *me* for the very footprints I stand on! I'm snatched blind and bald and still I'm hunted for my rags and my paltry budget of hours." He was moved to a greater fear — by his own words or something he heard, I could not tell — and this at last made him look at me.

He squinted up with a terror remote from me, as if my face was a dangerous crack in a high ceiling. His runny eyes gauged the threat without believing his voice could alter it. "We're in danger here," he said. "I'm a besieged man. Haven't I with the greatest pains stayed strictly in unused nooks of your life? In its closets and service-porch? Humbly in its basement?"

"Emphatically not," I cried. "You crowd me from the parlor floor of my life! You gorge yourself in its kitchen and sprawl grunting in its bedroom."

He looked down the road ahead and now I could tell he was straining his ears. He spoke with both voice and eyes again withdrawn:

"My body shrinks every year. Scant flesh and dry bones. A trifle. An alleycat could step over me even when I'm standing up. Obstacle? But talk can't help. We must turn back." His fear made him shrink in closer to the cartwheel, even as he unresistingly kept my pace up this road he dreaded to walk. I suddenly knew, with certainty, that I owned him. It is well known that anchoring spells often entail a clause of enchattlement, and render the Anchored the property of the Anchorage — myself in this case.

My alternative had appeared, fruit of my forbearance. He would submissively change hands in legal sale. I glanced him over. He was rheumy, rambling, feeble. But I might just get the price of a new wheel custom made — far beyond my means after what I'd had to pay the smith. The old man could then be sawn loose, and the new owner could use the undamaged chain as a leash, an added bonus. Still my heart misgave me: who would pay even this relatively small sum for a man so small and old?

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And then ahead of us, just by the road, there was a thin man sitting by a fire. On the grass beside where he sat lay hundreds of pieces of baggage, in large piles and smaller stacks — trunks, chests, casks, hatboxes, valises, crates. The little old man fell dead still and crouched even lower behind the wheel, though still obediently keeping pace.

We drew up to the thin stranger. He had black eyes, a pale disappointed face, and a very wide level mouth. He said:

"Whose life is that sneaking along under the shadow of yours?"

"Why, do you not see him here with his chain, this little old man?"

"Indeed, I do make him out now," the stranger said, "despite the glare of your greater energy. I note his chain has a spell on it. You cling tightly to what seems a feeble, slight property. Or could it be he clings to you?"

"He to me. Though I own him, he made himself my chattel. But as he neither shares my views nor craves my conversation, his motive in doing so remains obscure to me."

"You find it so?" the stranger asked with remote courtesy. He focused on the little old man with a visible dilation of his eyes' black centers. The little old man pressed right against the now still wheel, looking back at the stranger for a moment, and then stubbornly withdrawing his eyes to the ground. The stranger drooped slightly his pale lids. Instantly I recognized the drowsy apathy of a browser who has seen something he must possess. He looked at me and indicated a campchair (which I had not noticed) beside the fire.

"Warm yourself against the morning chill, my friend," he said.

I accepted, trying to radiate the stranger's own languid amity, though the chair was disturbingly cold to my posteriors and remained so, while the fire's heat had a way of dodging around my hands, forcing me nearly to touch it for any warmth, with a result of constant burns on my cold fingers. I praised his choice of a campsite. It was too close to the road, he answered modestly. I said that I for one preferred roadside camps over all others, as the least reclusive.

"My friend," said the stranger, sitting forward, "I would touch a matter personal to you — your chattel there."

"You mean my pushcart?"

"I mean the old man," and he smiled a little smile of anger which dispersed only slowly, like a smoke, into the black vaults under his

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drowsy lids. Somehow due to this smile, certainty clear and full now came to me about where it was I sat. I must make a killing now, I reflected. It is said that each man's calendar features one and only one truly open portal to wealth. This was surely mine. But neither did I dare show a completely outrageous greed. It seemed clear that this was not the stranger's day with me — but if outraged he might violate my calendar and cancel it altogether. A grave act, but the stranger's lawlessness is known.

"Your honor," I said, "I will lay aside ploys which can only insult you, and speak concisely. I will gladly sell you yon little old man for ten thousand dhroons in gold specie, but this price is not subject to debate."

"I am sure you speak jocosely," said the stranger with an elegant smile. "The sum you name was paid but once in history for a slave, and he was a wizard in his prime with four hundred years of prodigies left in him. What you sell is a husk, an asthmatic skeleton of straw whose death is thirteen years past due. Quite droll, most amusing. What is your serious price? A half dhroon?"

"My deep apologies, your honor, but I know with whom I deal. You are a glutton with the wealth of empires. It is well known how you especially crave those who, however briefly, have eluded you. You must and will pay what I demand."

"How if instead, my friend" — he gently touched my knee and stared into my eyes — "how if instead I pay you by withholding — now — my hand from your naked heart, by forbearing — now — to snatch the soul from your frame and send it wheeling through blizzards of thorns in darkness?" His eyes made mine feel like a pair of locks being picked. I said quickly:

"Neither of us is given you on this day or you'd have taken us instantly. The old man's mine to give, and he's quickly given, for a price that is truly as nothing to you." My knee where his hand touched it was freezing cold and felt like an icy wound that my life had already started draining out of. He studied me and the black centers of his eyes drowned out all the rest of my eyesight.

"Agreed," he said quietly. "Bring me a coffer or the like."

I brought him a pair of leather shoulder-bags such as pilgrims use. Over one of these he shook his pale hands and coins rattled against the bottom. He filled both bags in this way.

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"My profound thanks," I said. "How is the transfer accomplished?"

"Relinquish him at heart and utter any clear statement of transference."

Naturally I felt at this point how ironic it was. If the old man had been asked, he would have chosen amputation over the alternative I'd found for him. Still I had meant to spare him. Luck had given him a bad first bidder, but after all he was a parasite and I owed him no further efforts. My heart had already yielded him promptly, and now that my mind was caught up I said:

"I make wholly yours this old man's life."

The stranger got up and went to the cart. The old man's crouched legs strained, bones and tendons stark, but without producing movement beyond a shivering of his meager shoulders. The stranger crushed the chain in half with one hand, and with the other plucked up the old man by the neckscruff, kittenwise, though the stranger was the taller by no more than a foot. With his free hand he peeled the clothes off the old man, bringing him to the fireside.

He bound his hands behind, and bound his ankles. Then laying him by, the stranger took up a stick and began to scatter out the coals of his fire and this, instead of thinning them, made the embers thicker and redder. He spread them till he'd laid out a hot shimmering bed six feet wide, then drove fork-topped sticks into the ground at either end.

"A dodger of great reputation," he said as he worked. "As I let slip, he has escaped me these thirteen years. When I came on his just day, he bit my hand as I reached for his life, while his soul got away in a scream which I lost amid the noises of the city outside." The stranger picked up a pole which suddenly lay in the grass, and passed it behind the little old man, between his arms and legs. He set this spit upon the forked supports, and the old man sagged from wrists and ankles, his ribs swelled with agony over the coals, his yellowed hair shrinking to singed brown stubble. With a howl of pain he emptied his bladder — astonishing volumes of piss crackled and stank on the embers.

"Pagh!" shouted the stranger. "You've turned my stomach, senile worm!" He snatched up the spit and unbound the little old man, and laid him shaking on the grass.

The stranger took a suitcase from the nearest stack and set it on the

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ground by the old man. Producing a small ring of keys from his waistcoat, the stranger opened the case, which looked just big enough to hold the old man if you folded him a couple of times.

But what the old man did in fact was unfold. That heap of shaking bones sprang straight up off the ground, plucked the keys from the stranger's fingers, and fell back — not to the grass, but into the open suitcase. The whole of his sprawling, falling body plunged neatly in, and the suitcase banged shut.

The stranger threw himself on the suitcase, and hammered on it as on a door set into the earth. His blows echoed widely underground, where nothing stirred.

A long time passed as he lay there. I shifted my gold quietly behind me, out of view. Slowly, the stranger got to his feet. Facing to the north, he flung out his arm, and a wind began to blow against his heaps of baggage. All of it — chests, tubs, bales, and trunks — tumbled away as light as dead leaves before this breeze, and rustling softly, moved in a rolling flock up the road. The stranger looked back at the suitcase, which alone hadn't blown away, and then at me.

"He's sealed my own gates against me," he said. "He's locked up his death and left it by a back door. That miserable, mulish scrap of soul." The stranger's voice was a desolation matched only by the chasms in his eyes. But it wasn't anguish only. He was also impressed. I was sure of it. So I took a plunge.

"Your honor. Your honor, listen. Give me some luck. Match the heroism of the departed, and show heroic liberality in defeat."

He looked at me for a long time, stroking his lower lip. "Excellent," he said quietly. "I will give you luck. Your luck will be in the sealed door of your slave's escape. Let no day pass without putting your ear to the suitcase. For the most part you will hear perhaps nothing, perhaps cryptic echoes. But there will be one day when you will get your luck, for you will hear a warning telling you I am coming on the following day."

"My luck is one day's notice?"

"Just so."

"My sincere thanks," I said firmly. I was disappointed, but did not want to seem churlish. It was more luck than none at all.

I watched him out of sight, his baggage tumbling before him across the

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plain, himself a smaller and ever smaller shape, but always of a blackness so perfect he seemed a hole, a leak in the scenery through which it all — all the wide sky and rolling earth — might swiftly drain and vanish utterly away. Then I loaded the suitcase on the wagon, and went my own way.

Through the years it has proved a weighty burden, that suitcase — far more vexing than the old man himself.

For of course, it holds me thrall. I must crouch and lay my ear to it every morning without fail — to hearken for my warning. I must do this though I've learned to curse and scorn the brief and pointless prescience the case contains for me. I am living off my interest now, and life is good, but this baggage of futile foreknowledge that I bear is more a torment than anything else.

I would long past have hurled it from a cliff into the sea, but for...something else. For I have yet to hear my warning sound within it, but neither have I yet heard only silence.

It seems the old man, in the rush of his escape, left some kind of inner door ajar behind him. And from that inner door there is a faint leakage of ...sounds, echoing in the case's tomblike hollowness. The old man, it seems, passed to some Other Country, and left its gate agape, and now I hear the rumors drifting out — the faint and ragged cheers of distant multitudes...the shout of surf on rocks...a voice, unearthly sweet, that sings while thousands weep...and other voices boldly raised in dialogue that I can almost decipher.

From time to time, at odd moments during the day or night, my hand darts out and grabs the air. I do this because I am seeing again the old man's fingers as they plucked the key from Death's. So quick and fierce it was, that old man's hand!

Will my hand prove as quick and fierce as his?

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# FILMS

## KATHI MAIO

# HE CAN FOIL A NUCLEAR WARHEAD, BUT CAN HE TAKE ON A MOUSE?

LIFE IS FULL of little crises of the conscience. I just had one as I unpacked my new computer this past week. It arrived, as desktop systems usually do these days, already loaded with a bundle of useful software. And almost all of that software came from a little Pacific Northwest firm called Microsoft. (Perhaps you heard of it?)

Yes, without making a single additional purchase, or throwing a single CD-ROM in my new DVD drive, I could, right out of the box, write this column (and transmit it), manage my money, fiddle with a few family photos, schedule my month, set up a database of my video collection, and create an adorable greeting card for my Great Aunt Maude's 90th birthday. And that's not all.

The thing is, like a few other folks, I have this semi-irrational dislike of Microsoft. Oh, I know that Bill Gates isn't Satan — even if he *is* richer than God. I just don't want the day to come when every piece of software that we purchase carries the Microsoft logo. Therefore, for years, I have stuck with WordPerfect as my word-processing package. I stubbornly resisted switching to Word, even when my various workplaces and most of my friends made the switch to Office suites.

But now Word is sitting on my new hard drive. That stupid little paperclip Office Assistant is calling my name. What to do? Do I load an older piece of software, with none of the latest bells and whistles, onto my computer? Do I sink big bucks, that I certainly don't have, into the latest version of WordPerfect, when I have a perfectly good, quite up-to-date, and almost universally

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embraced word-processing package ready to rock?

Gentle Reader, I can hear you grumbling. "What the blazes does any of this have to do with FILM?" you ask. And my answer is, not a thing. And everything.

You see, I love animated feature films. And just as I worry about Microsoft's domination of the software biz, so, too, I fret over the near monopoly a certain mouse holds on animation at America's cineplexes.

This concern is fresh on my mind at the moment. Because I have just witnessed the best, most original, Hollywood animated feature I've seen in a long time crash and burn at the box office. That film is *The Iron Giant*. And, as I write this column, it looks like Warner Brothers's full-length cartoon will make back *less than half* of its production and marketing costs (of approximately $60 million) in its North American theatrical release.

Disney's vastly inferior and totally predictable *Tarzan*, by comparison, pulled in something like $170 million (not including the massive profits the film will derive from U.S. sales of its fast food tie-ins, toys, T-shirts, and other *Tarzan* merchandise). There's no justice in this world. And soon, there's liable to be no competition, either.

I shudder at the thought. So, let me see if I can, at least, boost Warner Brothers video sales a bit, by explaining why you should rent, purchase, or otherwise offer a second life to a movie you probably didn't see in a movie theater this past summer.

*The Iron Giant* is based on a children's book by Ted Hughes, late Poet Laureate of Britain. But the story fashioned from Hughes's book by director Brad Bird, and scripted by Ted McCanlies, bears only a passing resemblance to the original. Bird ditches the "space-bat-angel-dragon" who commands the last third of Hughes's 1968 tale. Instead, he develops the personality of the title "monster," and carefully details both the metal behemoth's personal growth and his relationship with a young boy he calls friend.

Bird also sets his adaptation in a very specific place — small town Maine — and a very specific time — the late 1950s. This allows the filmmakers to give the film a precise look. (And an exceedingly handsome retro look it is, too!) It also allows them to place a poet's timeless fable into a social context where it makes the most sense. Set during an era when Americans grappled with issues like the proliferation of nuclear weapons, political (red

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scare) paranoia, and a fear of and fascination with new technologies, *The Iron Giant* explores how a small rural community would react to a hundred foot robot from god knows where.

If this sounds suspiciously like the classic science fiction and horror films of the fifties, it is no accident. Brad Bird's first feature is, among other things, an elaborate homage to those great old sf flicks of mid-century. You'll certainly see glimpses of films like *The Day the Earth Stood Still* in *Giant*'s wonderful animation sequences. Other pop culture references are even more direct, like when the movie's boy hero, Hogarth, is forced to watch a "duck and cover" cartoon at school, or when he eagerly enjoys a forbidden "scary movie" about a man-eating brain back at home.

Obviously, these small touches will mean even more to an adult viewer than they will to a small child. And that is one reason why *The Iron Giant* is a superior animated fantasy. For once, we have been given a feature cartoon that an adult can truly enjoy watching — more than once. (What a change from that sense of panicked dread you experience when the kids put *The Little Mermaid* in the VCR for the umpteenth time.)

But will kids like it? It depends on the child. Certainly those tykes already addicted to the Disney formula may find *The Iron Giant* a little deficient. There is no dashing romantic hero here, no wacky sidekicks, no cute little talking animals, and (most especially) no big musical numbers. *The Iron Giant* is something unheard of in a Hollywood animated movie: a character-driven story that not only doesn't talk down to kids. It actually invites them to grapple with some rather large philosophical issues.

How large? Well, how about death, free will, and spiritual essence? Then there's the concept that Brad Bird first pitched to the suits at Warner Brothers: What if a gun had a soul?

It would be a mistake to make *The Iron Giant* sound like Kierkegaard Illustrated, however. So, let me describe the basic storyline a bit more.

A bright and resourceful lad named Hogarth Hughes (voiced by Eli Marienthal) lives with his hard-working waitress mom, Annie (voiced by Jennifer Aniston) in small, coastal, Rockwell, Maine. It's a peaceful burg, until inhabitants start reporting sightings of a giant, robotic man, as tall as the oldest pine trees.

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Hogarth is the first to have a close encounter with the giant, when he saves the creature, who has become tangled in live electrical wires (vintage movie alert!). Thereafter, Hogarth tries to keep his new friend safe and under cover — no small feat when your new pal is bigger than a church steeple. Eventually, a smarmy xenophobic G-man (voiced by Christopher McDonald) shows up in town looking for the Giant. With a little help from a beatnik artist named Dean (voiced by Harry Connick, Jr.), Hogarth at first thwarts the prying agent. But then, the situation disintegrates badly. When the gentle "monster" is attacked by land and sea, the escalating violence forebodes death and destruction for all concerned.

There's no getting away from the fact that *The Iron Giant* has a few lessons it hopes to teach. The most important is that each individual needs to make active choices in life to, like Hogarth's favorite comic book hero, Superman, only use one's "power for good." This movie is clearly no fan of guns, nuclear weapons, or violence as a viable solution to any problem. Yet it never seems all that preachy, because it also makes full use of the adventure, humor, and exciting visuals that are staples of the feature cartoon.

I found *The Iron Giant* to be a completely engaging movie experience. I laughed. And, yes, I cried, too. Moreover, I felt like I'd really gotten my money's worth when I left the theater after watching it. And everyone I know who saw the film — be they film critic, animation fan, sf buff, or neighborhood kid and dad — felt the same. The problem is that all too few of the people I know *did* see the film. And most of the millions of Americans I *don't* know also failed to see this marvelous movie.

Why did it tank? I'd like to say that it was an NRA plot to stop the film's anti-gun message from getting out. But the truth is much less exciting and just a tad more complex.

Clearly part of the fault lies with Warner Brothers. They released the movie too late in the summer, after wasting all their marketing budget on that miserable disaster called *Wild, Wild West*. They ended up doing precious little advertising and promotion for the film. There were no *Iron Giant* Happy Meal toys. And even the Warner Brothers theme stores seemed to have little interest in selling *Iron Giant* merchandise.

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(No, it shouldn't be about toys. But with kid-pitched movies these days, it so often is.)

And speaking of pitching the movie towards a specific target-group, Warner Brothers shouldn't have. *The Iron Giant* isn't *just* a family film. It is a movie even adults without wee ones in tow might enjoy (if they only hear about it).

And then there's that other problem. I refer to that giant rodent that looms above even a hundred foot tall robot. Disney owns the summer animation box office. And this was *Tarzan*'s summer. As per usual, there was little room for the competition at the multiplex.

Oh, give Disney credit. They know how to build a by-the-numbers cartoon feature. And they certainly work hard at promoting their product, as well. Disney sent Tony Goldwyn (the voice of Tarzan) out on the talk show circuit. (I never saw a single interview with Aniston or Connick in support of their *Giant*.) And Disney shipped plenty of toys to the fast-food restaurants and the discount department stores. Mr. Eisner's crews got their corporate synergy mojo working overtime to make sure that every man, woman, and child found out about their movie.

So, they won the box office wars. Who cares? Well, I do. Because the bean counters of Hollywood look at box office figures. (Hell, that's *all* they look at.) And every time one of the projects from the fledgling animation units at Warner Brothers or Fox or DreamWorks has a disappointing showing, it becomes more likely that that studio will scale back its future animation projects, and leave the field of American animated features solely to the House of Mouse.

I'd like to point to Japanese anime as the kind of adult-friendly feature cartoons that could finally challenge Disney dominance. I recently watched my copy of *Kiki's Delivery Service* (1989), and was enchanted all over again by the artistry of director Hayao Miyazaki. I am thrilled that Miyazaki's *Princess Mononoke* (1997) is finally getting a U.S. theatrical release. Just as I am happy to have Kiki and this modern master's *My Neighbor Totoro* available on video.

But Mr. Miyazaki's inroads into the American marketplace don't exactly represent a blow against Mickey's reign. On the contrary. Miyazaki's American videos were released by Buena Vista, a Disney division, and *Mononoke*'s U.S. release is being orchestrated by

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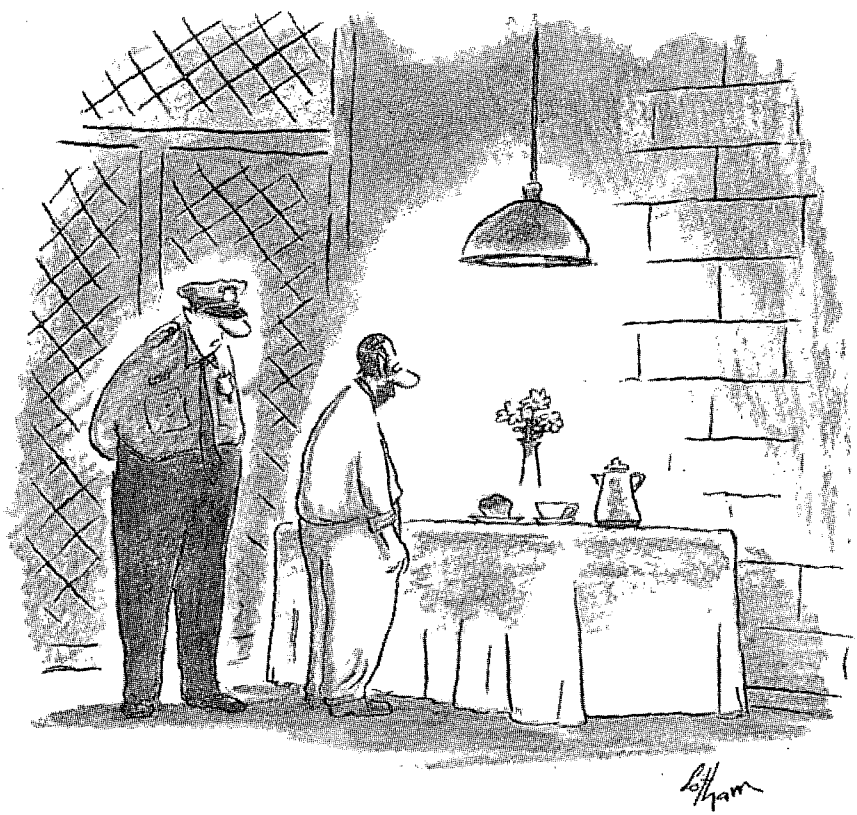
Miramax, now Disney's art house subsidiary.

What can I tell you? I hate monopolies — and even near monopolies. I hate them even more than the idea of a fine movie like *The Iron Giant* never finding the audience it deserves.

Do me — and yourself — a favor. Rent or buy *The Iron Giant* as it makes its way into video. Strike a blow for quality and corporate diversity.

Of course, I say this (I must confess) after typing this column in Microsoft Word. ☭



*"There is no last meal—only a last continental breakfast."*

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*Paul Di Filippo is well known as a reviewer, novelist, short-story writer, and of course perpetrator of our "Plumage from Pegasus" columns. He is also a world-class diver in the fast-moving river of popular culture. Where others are swept along by it, he manages to pluck gem after gem from the current. This latest work of fiction celebrates the talents of our foremost Duck artist: Mr. Carl Barks, creator of Uncle Scrooge McDuck. Should you happen to be wondering, Mr. Barks turns 99 on March 27 this year.*

*We expect everything in this story to come to pass shortly.*

# Stink Lines

## *By Paul Di Filippo*

GYRO GEARLOOSE LOVED Ginger Barks.

Had that deeply simple sentence possessed no further clause or codicil, no qualifier or amplification, all would have been well. Love, courtship, marriage, babies, grandparenthood, senescence, life-support, heavily monitored institutionalized death, and the survivors left arguing about what to do with the chipped china: the old, old human progression would have flowed like hydrogen through the fuel cell of a new 2025 Wuhan Panda. No headaches, no heartaches, no troubles —

No story.

So:

Gyro Gearloose loved Ginger Barks — but *she* did not love *him*.

And that essential lack of reciprocal affection was why Gyro decided to reinvent their world in her honor.

The day on which Gyro Gearloose upended the unsuspecting world in the name of unrequited love began like any other. Gyro's bed catapulted

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his lanky naked form into the soft embrace of the auto-valet's capture net. Via an overhead crane system, that talented apparatus deposited him fully dressed at the kitchen table. The multi-appendaged, radar-eyed oil-drum-on-a-unicycle that served as his chef and butler brought him breakfast: two dodo eggs with a side of mammoth hash. This repast Gyro consumed rather heedlessly, while having the old-fashioned newspaper read aloud to him by another mechanical servant shaped like a large bespectacled green bookworm. Then, after getting his teeth brushed, Gyro rode his unique firecracker-powered vehicle to his office at Happy Duck Research.

Inside his quiet sanctum, Gyro's desk quickly ventured to attract his attention. "Mr. Gearloose, you have over one hundred messages awaiting your input. In order of importance, they — "

"Not now," commanded Gyro, and the desk fell silent. Gyro tossed himself in a lovesick fashion onto a couch. Reaching over and behind his head to an end-table, he grabbed a framed photo and brought it before his forlorn gaze. The portrait depicted a smiling woman whose delicate features summed perfection in the eye of this beholder. Of an age with Gyro, dark-haired and lithe, this temptress was none other than Ginger Barks. Shaking the frame like an antique Etch-a-Sketch to realign the picture's intelligent molecules, Gyro was rewarded with the image of a child, plainly an earlier version of Ginger. This was the waif Gyro had first fallen in love with at age five, at a time before he had even borne his current name....

No one in the real world today is ever named Gyro Gearloose from the moment of birth. For one thing, a majority of the ancient Gearlooses went extinct during the Age of Reason, victims of ill-conceived phlogistonical and etheric experiments that tended to end in fatal explosions. Those scions remaining changed their surnames shortly thereafter in order to overcome a certain ditzy image. For another thing, no parents — not even gadget-besotted engineers — would name their child "Gyro" in the multicultural early-twenty-first-century USA, out of fear of having him mistaken for a Greek sandwich. No, the only universe from which one may choose to adopt the Gearloose name remains a famous comicbook one. Which is precisely where our own Gyro Gearloose found his alternate apellation. Or rather, had it thrust upon him.

Little Gary Harmon was five years old in the portentous year of 2001.

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And whatever that year might have meant for the rest of Earth's multifarious population, for Gary it signaled massive upheavals. For 2001 was the year during which Gary's mother abandoned the ineffectual and distant Warren Harmon for love of another woman, and, consolidating her custody of Gary, moved to Duckburg.

The town of Duckburg had until very recently been known as Los Gatos, California, an upscale hamlet on the edge of Silicon Valley. But late in the year 2000, Los Gatos was purchased outright by the Disney empire, flush with cash after the success of its latest animated feature, *Disney's Golden Ass of Apuleius.* (The computer industry that formerly provided much of the area's wealth and stable tax base was churning spastically under the introduction of carbon-based buckytube circuitry, and Governor Simpson saw the sale of Los Gatos as a fine way to tauten a sagging bottom line in the state's budget.) This charming, compact town, not far from major population centers, suited Disney's plans perfectly: the corporation intended to construct a monument to one of their relatively unsung geniuses, a staff creator for much of his life who had yet managed to emerge from the bland anonymity that cloaked most Disney artists.

The cult artist Carl Barks had been born in 1901. At the turn of the century he was still alive. And his work had more fans than ever.

Starting in the late 1940s, Barks had jolted the basic boring Donald Duck print universe — always a minor tentacle of the Disney octopus — with about ten zillion volts of creative energy. In hundreds of comicbook adventures over the next three decades, Barks added intriguing new characters and dense backstory to the formerly one-note Disney property, creating a rich Benday-dot cosmos. Aided by superior artwork, abetted by humor and a sense of adventure, Barks succeeded in placing his own unique stamp on Uncle Walt's creation. Barks's work had been reprinted and idolized now for nearly half a century. Motivated by a smidgen of benevolence and a heap of self-interest, the Disney suits had decided that Barks's centennial was time to build the man a monument.

The Disney imagineers moved into Los Gatos. Under the terms of their purchase, they owned every property in town, which the state had first seized by eminent domain. But the generous enterprise promptly leased the buildings back to any citizens and businesses who wished to remain through the transition. Within twelve months, thousands of

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workers had transformed Los Gatos into a fenced-off simulacrum of Barks's Duckburg. Role-playing employees were brought in to supplement the other, non-costumed citizens, the admission booths were opened, and Duckburg was in business, after a stirring ceremony involving its humble aged founder and a host of luminaries.

The Disney drones had even found some genuine Barkses willing to relocate to Duckburg. Harry and Norma Barks, with their young daughter Ginger, were distant relatives down on their luck and happy to move to a town where they would become instant celebrities with a new home and guaranteed income.

At the same time, the former Mrs. Jane Harmon, having reverted to her maiden name of Greer, arrived at the model community, looking for a new start. With her lover, Lorna Lish, and using money from her divorce settlement, Jane Greer set up a ceramics shop in Duckburg. (Having successfully beaten the pitifully ineffective Southern Baptist boycott, Disney was now actively and openly encouraging gay and lesbian participation in all its affairs, and so endowed Jane Greer with many generous tax breaks and incentives.)

And so it was that little Gary Greer-Lish was soon enrolled with Ginger Barks and all the other potential Junior Woodchucks in Duckburg's school.

No genius was necessary to coin Gary's nickname in this milieu. Within an hour of the first roll-call, every one of his peers was hailing him as Gyro Gearloose.

Gary's consternation, as might be imagined, was thick and weighty. Uprooted, friendless, unfamiliar with the basis of his new community, he reacted badly at first to the nerdy nickname.

One recess period, as Gary sat disconsolately in the fragrant shade of a eucalyptus tree, one of his female classmates approached him.

"*I* think Gyro Gearloose is *cool*," Ginger Barks said, then, red-faced with embarrassment, hurried off.

That was all it took. Gary was in love.

Over the next few months, as Gary ineluctably became more intimate with the history of his chicken-headed humanoid namesake, he felt himself growing comfortable with his new unshakeable name.

Barks's Gyro *was* cool. Unfettered by marriage or convention, brilliant,

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carefree, indomitable in the face of disaster, Gyro was perhaps the one citizen of classic Duckburg with complete freedom. As role models went, you could do much worse.

In subsequent years, as certain of the growing boy's own intellectual proclivities began to manifest themselves, rendering him something of a happily asocial loner, the identification with Barks's creation became complete.

So around about the time Gary Greer-Lish got his third virtual Ph.D. (he was nineteen), he answered more readily and easily to Gyro Gearloose than to his legal moniker. And a few years later, when he opened his Happy Duck Research in Duckburg with a few hundred million dollars deriving from his patents on a process that boosted the efficiency of chlorophyll by two hundred percent, Gyro Gearloose *was* his legal name.

As for Ginger Barks, she had left Duckburg in their first year of high school. Her parents had eventually crumbled under the pressure of being permanently on display, and had relocated to San Francisco. Cruelly, at just that period when Gyro was becoming mature enough to deepen his relationship with his one true love, she flew out of his reach. During subsequent years, despite Gyro's constant attempts at forging closer bonds, Ginger had remained seemingly uninterested in Gyro as anything more than an old childhood friend. Nowadays, in her demanding job as reporter for the *San Francisco Examiner*, Ginger seldom even bothered to punch Gyro's address into her pocket-pal's e-mail window.

Gyro now planted a kiss on the glass front of Ginger's picture. The glass fastidiously cleansed itself of his lip-prints, otherwise Ginger's features would have been obscured by an overlay of such daily traces.

"If only I could do something that would bring Ginger back to Duckburg," said Gyro wistfully to the seemingly untenanted room. Not recognizing a command or request, his desk remained silent. "Even if only for a little while. Surely she'd soon see how much I care for her! But what could I do that would be marvelous and startling enough to attract her attention?"

There came a tugging at Gyro's pants leg. Looking down, he saw Li'l Bulb, his Helper.

Li'l Bulb was Gyro's loyal personal assistant. Approximately fifteen inches high, his form was simple: his head resembled a faceless Edison-era

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pointed light bulb sitting in a knurled chrome collar; below that, a flexible stick-figure armature, feet encased in bulbous shoes and hands begloved. These primitive looks, however, belied Li'l Bulb's astonishing features. Inside his mock-filamentous head (opaque, with a *trompe-l'oeil* holo giving the illusion of tungsten-occupied transparency), buckytube architecture granted him a processing capacity of many, many teraflops, the equivalent of several oldtime supercomputers. The titanium rods of his body were packed with miniature power-sources and sophisticated sensors. The one thing Li'l Bulb could not do was speak. In this day and age where practically everything talked, Gyro preferred silence in his assistant. However, Li'l Bulb's miming was surprisingly information-dense, and if necessary, he could always scribble a quick note.

Now Li'l Bulb's message was obvious. In response to Gyro's plaint, he was waving a rolled-up comic he plainly desired Gyro to read.

Gyro took the book, which was one of the many reprints of Carl Barks's drakely adventures to be found at various souvenir stands within Duckburg. Overly familiar with such fare, Gyro perused it briefly, then said, "What's the point, Helper?"

Li'l Bulb whooshed his hands as if simulating flight. He gestured in a wavery fashion as if portraying heat-distorted air. He shaped an obvious balloon above his head. He cupped his hands and then exploded them outward.

Gyro scratched his head. "Are you saying I should fly a plane to the desert and blow something up?"

Li'l Bulb slapped his indestructible glass forehead in frustration, then snatched paper and pencil from the endtable. After writing two sharp words, he handed the paper to his boss.

"'Special effects.' Hmmm." Gyro took another look at the comic. In one panel, Donald had just been drenched in perfume by an irritated Daisy. From his sodden, dejected, feathered self radiated thick lines indicative of exotic pungency.

Gyro shot to his feet. "Helper, you're worth your weight in Einstein-Bose condensate! Now, fetch me my hat!"

One article of apparel the original Gyro Gearloose was never seen without was his hat. Some kind of yellow felt porkpie with black band and

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upcurved brim, it remained securely atop his brown thatch through whatever chaos ensued, thanks to a handy elastic string running under his chin.

Our Gyro, no stickler for imitating the appearance of his namesake, went hatless on a day-to-day basis. The hat now being dragged across the floor by a responsive Li'l Bulb clutching its string, although outwardly identical to the original model, was in reality a special instrument devised by Gyro, and used only on certain needful occasions. The crown of Gyro's hat was packed with circuitry that could interface with his thoughts via electromagnetic conduction and induction, amplifying them in radical ways and bolstering his natural creativity and genius. However, the device was neurologically ennervating to a certain degree, and Gyro used it only sparingly. Besides, somehow the hat felt like cheating. Even though it was his own invention, he preferred relying only on his unassisted natural brain.

If the hat helped him win Ginger, though, he'd gladly compromise any principles and sacrifice any number of gray cells.

Li'l Bulb reached Gyro's feet, and wiped imaginary sweat from his brow. The inventor bent down to retrieve the hat. Placing it on his head, he snapped the string under his chin, thus activating the amplification effect. Immediately, his face assumed a loopy expression; you fully expected Gyro's eyes to spin like the cylinders on a slot machine until they came up all cherries.

In an abstracted voice, Gyro addressed the desk: "Open new spec file for our nanofab plant, production to begin immediately upon file closure." Gyro launched into a long recitation of abstruse assembly parameters, terminating the instruction string with a final "Close." He snapped the chin-string again, powering off his hat, then removed it. Wearily, he slumped onto the couch, hat cradled in his lap. Li'l Bulb hopped up beside him.

"Well, Helper, would you like to hear what I've just invented?"

The automaton shook his head no.

"Really? Why not?"

Li'l Bulb snatched up his pad and pencil and scribbled a note.

"'Legal and ethical deniability.' Oh, come off it! When have I ever gotten us in trouble before?"

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Holding up his left three-fingered, one-thumbed hand as if to enumerate occasions, Li'l Bulb began to count off with his right index finger. He reached five sets of four before Gyro stopped him.

"Okay, okay, but this time won't be like those. I've simply adapted an old theoretical idea for my own purposes. Have you ever heard of 'utility fog?'"

Li'l Bulb clasped his head with both hands as if in alarm.

"What's wrong with utility fog? An evenly dispersed permanent aerosol of intelligent nanomachines about as dense as the air pollution in twentieth-century L.A. An ambient mist that living creatures can breathe harmlessly. Nothing alarming about that. And utility fog could really be helpful. Say your car was filled with the stuff. You'd never notice it until you got in an accident. Then — instant airbag, as the invisible machines protectively swarm and cohere between you and the dashboard!"

Furiously moving pen across paper, Li'l Bulb finished another note.

"'Why hasn't utility fog been marketed before now if it's so wonderful?' Well, there are all those foolish EPA regulations for one thing...."

Li'l Bulb began to run in circles on the couch. Without warning he leaped up onto Gyro's lap and grabbed a handful of Gyro's shirt. Frantically, the small assistant began to shake his boss.

"Helper, stop it! My mind's made up! Nothing's going to go wrong. I've programmed my utility fog to monitor GPS coordinates and remain within Duckburg city limits. And its effects will simply be certain, ah, visual enhancements. Besides, it's too late now. The assembly instructions included immediate dispersal of the first few units into the atmosphere, with self-replication thereafter."

Falling back onto the couch, Li'l Bulb lay on his back with hands folded in corpse posture across his tubular chest.

"Oh, what a melodramatic clown you are, Helper! But by this time tomorrow, when the fog reaches critical mass, you'll see that all your fears are unfounded."

Li'l Bulb's unstirring attitude and fake flickering filament somehow managed to convey immense sarcastic doubt.

When Gyro awoke the morning after his Ginger-winning brainstorm he first moved his arm tentatively, noting nothing unusual accompanying

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its passage through the air. Critical mass of utility fog had plainly not been reached yet. Before he could perform any further non-instrumented tests, the bed, sensing his change in consciousness, launched him into another day.

At the office, all was as before. Gyro dealt with many matters pertaining to the swelling fortunes of Happy Duck Research, losing track of time. It was only when his secretary knocked on his door, causing a seated Gyro to look up from various interactive displays, that the savant realized his scheme had borne strange fruit.

Each rap on Gyro's door produced an accompanying visual phenomenon. A jagged-edge canary-yellow splotch as substantial and coherent as a piece of floating gauze materialized in midair near the door. Inside each splotch was printed in black the punctuated word **KNOCK!** These manifestations lasted approximately three seconds before fading to nothing.

"Come in," called Gyro.

Above his head appeared an unmistakable word balloon. A white oval roughly the size of an unfolded diaper with a dangling curving tail functioning as source-pointer, the balloon repeated Gyro's words: *Come in.*

Gyro got to his feet. "Oh, excellent." A second balloon materialized, even as the first was fading. Gyro walked quickly around the collection of intelligent particles. As solid to the eye as a sheet of vellum, the word balloon displayed its message on both sides in readable orientation.

The door to Gyro's office swung open, framing Gyro's secretary, Mina Lucente, bearing a tray from the company cafeteria. Today, to complement her Daisy-Duckish pinafore, Mina wore robin's-egg-blue pumps. As she crossed the office's tiled floor, each percussive strike of her high heels was accompanied by a spatter of purple centered around a **click** proportionately smaller than the loud **KNOCK!**

"Mr. Gearloose, I brought you some — " Mina faltered as her words appeared in quasi-tactile form above her head. Holding the tray one-handed, she covered her mouth.

"Don't worry, Mina. That balloon's not issuing from you. Well, not entirely." Gyro explained what he had done, his own continuous speech flickering across the surface of a single balloon as if on a teleprompter, as the clever utility fog maximized its resources. "Now, set that tray down

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and go draft a press release. I'm sure we'll be getting quite a number of calls about this enchanting modification to Duckburg's environment."

As Mina was leaving, Li'l Bulb entered. Confronting Gyro with hands placed on imaginary hips, Li'l Bulb regarded his boss sternly for a moment, then reached out and snapped his fingers. The **snap** was represented as a green bubble that popped out of existence rather than faded.

Gyro handed his assistant a pen and paper, and got back this message: "You don't know how glad I am that I cannot speak."

Gyro smiled. "Oh, don't worry. The utility fog will soon respond to other things than sound. Just wait and see."

WHEN THE MAYOR of Duckburg stormed into Gyro's office, he found the giddy inventor testing the limits of the unasked-for civic improvement. Uttering any old gibberish that came into his head in order to keep a speech balloon alive — the Gettysburg Address, pop song lyrics, his projected Nobel acceptance speech — Gyro was attempting to discover the self-repair capacity of the utility fog. Ripping big hunks out of the floating speech display — the ragged weightless fragments remained alive for a few hundred milliseconds in Gyro's cupped hands, their portion of print warped and distorted — Gyro watched appreciatively as new nanomachines swarmed into the damaged area to repair the hovering text balloon.

Seeing the Mayor, Gyro called out gleefully, "It's just incredible! Without my hat, I can't even recall all the routines I put into these little rascals, but I must have cobbled together some really neat code!"

Already once retired, the octogenarian Mayor Floyd Ramie was not generally an excitable type. From 2005 to 2015 he had had a flourishing career with Disney in their Touchstone division, performing in such cinematic hits as *Voodoo Lounge* (2012), where he co-starred with a geriatric Mick Jagger as one of a pair of doddering hippies intent on opening a Club Med franchise in Haiti upon that nation's ascension to statehood. Pensioned off to Duckburg, he had won the mayoral post in an uncontested election.

The Mayor's generally benevolent and somnolent disposition, however, had been drastically frayed by an hour of watching his own speech

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— and that of all the frantic visitors to his office — come and go above his head. Mayor Ramie had never realized how full of awkward pauses (indicated in the speech balloons by the conventional three-dot ellipsis), stutters, fragments, and senseless interjections his own unscripted conversation was.

Now the Mayor banged a fist down on Gyro's desk. His action was accompanied by a dull brown THUMP!, causing Gyro's desk to cry "Ouch!", an exclamation which was simultaneously ballooned in a square shape, indicating machine speech.

"Goddamn it, Gearloose, what the, um, hell is going on here? What've you done? Er, does Disney know about this? Is it something they, ah, asked you to do? Why wasn't I informed first? Do you realize it took me, er, over an hour to catch up with your, um...press release?"

Gyro smiled. "No, Floyd, this is entirely my scheme. I thought I'd bring Duckburg a little welcome notoriety. Ticket sales have been off this year, haven't they? Ever since RioDisney opened. Mighty hard for Uncle Scrooge to compete with all those thong-clad Carioca babes."

Watching his own just-uttered words while simultaneously trying to formulate new ones was inducing a kind of psychic vertigo in Mayor Ramie, introducing strange loops into his neural speech circuits. Face flushed, he groped for coherence. "Jesus, Gearloose, I can't believe you thought I believe you can't Jesus — "

At that moment the perpetually replicating utility fog crossed a new threshold, exhibiting a startling emergent property.

Mayor Ramie's head caught fire.

Wide-eyed, Gyro felt his jaw drop. The Mayor, realizing by Gyro's gaze that something novel was occurring in the vicinity of his stubbornly unmodified bald pate, reached up. His hands disturbed the vaporous mock flames, but of course he felt nothing.

"What, what, what?" he spluttered.

"Oh, it's nothing. Just that your head appears to be burning up, obviously because you're angry with me. You see, I endowed my nanomachines with the ability to monitor human physiological responses, including EEG traces. They're akin to miniaturized emotion-detectors, only much more sophisticated."

With visible effort, Mayor Ramie composed himself, and his crown of

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flames died down. "So everything I, ah, feel is going to be made, er, objectively clear to everyone?"

"More or less. But let's face it, Floyd — you were never exactly what anyone would call 'poker-faced' before now."

Mayor Ramie seethed in silence for a few seconds, until his accusatory glare triggered a new response from the utility fog.

From the vicinity of the Mayor's eyes twin streams of tiny daggers flowed, impacting harmlessly on Gyro. The inventor's involuntary laughter was the last straw, sending Mayor Ramie storming out.

Mina Lucente entered hard upon the Mayor's departure. Chewing gum, she was accompanied by an orbital cloud of evanescent pink pearls, each encapsulating a small **snap.** "Mr. Gearloose, I'm holding off hundreds of news organizations that want to talk to you."

"Is one of them the *San Francisco Examiner*?"

"Yes."

"Tell them they'll have an exclusive interview with me if they send their reporter Ginger Barks to Duckburg."

Mina frowned. "Your old sweetheart?" A giant glossy red Valentine heart materialized over her head, then cracked into shards. "Very well, *Mr.* Gearloose!" Mina **stamped** off.

"And to think I never even suspected.... Oh, well, it's all for the best. Things are working out exactly as I planned."

Little did Gyro suspect that he might soon have to eat his words.

Literally.

Preening in front of his office mirror, Gyro congratulated himself once again. Ginger Barks had entered Duckburg and was on her way to his office. Her enforced stroll through the living-comicbook town (vehicles other than code-approved ones such as Gyro's firecracker-mobile were prohibited within the metro-park) would surely impress her with Gyro's genius. During their interview, as he expatiated at length on his latest invention and on his boldly adventuresome future plans, he would gradually direct the conversation toward personal matters. By the end of their session, Gyro was willing to bet, he'd have a date with Ginger. After that, it was simply a matter of time before she agreed to become Mrs. Gearloose.

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Gyro's door burst open, hitting the wall with an impressive orange **THWACK!!!** In rushed Li'l Bulb. The lively small automaton was plainly very excited. Jumping up and down, he pointed backward out the door, then pinched the space where his nose would have been.

"What is it, Helper? Another leak at the bioremediation plant? I thought we fixed that for good."

Li'l Bulb shook his head in the negative. He began another miming, then abruptly stopped. Folding his arms across his chest, he composed himself patiently, as if to say, *You'll soon see.*

And see Gyro did. For at that moment Ginger Barks, eternal romantic icon lodged in Gyro's perpetually adolescent heart, re-entered his life. Not unaccompanied, however. For radiating from Ginger's entire body were innumerable stink lines.

The nanomachines had outdone their past creative efforts. The stink lines they had created were inch-wide wavery ribbons of various bilious shades: diarrhea-brown, vomit-yellow, squashed-bug-green, fresh-roadkill-purple. Extending upward from Ginger's anatomy in varying lengths, they resembled a forest of sickly, current-stirred kelp.

Gyro was dumbstruck. The look on Ginger's face did not help him to recover his voice: her beautiful countenance was contorted with anger. When she fixed her baleful gaze on Gyro, a small black storm cloud appeared over her head, discharging tiny lightning bolts and thunder **rumbles.**

"Gyro Gearloose! I assume you're responsible for all this! What the hell are these, these *attachments*?" Ginger was unmistakably displeased. "I picked them up as soon as I came into town!"

Gyro hesitated to name the display with its conventional rude tag. "They're, um — fragrance motifs! I assume you're wearing some kind of perfume...?"

"Yes, of course. Calvin Klein's newest. *Compost.* It's part of his whole 'Wake Up, Gaia' line."

Advancing tentatively on his beloved, disinclined to sample any odor that could have provoked such an abundance of stink lines, Gyro essayed a delicate sniff. Not surprisingly, given Calvin's fine reputation, Ginger's perfume proved to be an attractive melange of subtle organic scents. However, some esoteric chemical underpinning must have provoked the utility fog's garish reaction.

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"Quite nice," Gyro hastened to compliment Ginger. "You smell like a summer tomato. As for the, er, fragrance motifs, they're just a small glitch in my creation, I assure you. I have an idea! Let's talk outside. Perhaps the effect will dissipate out of doors."

Ginger's personal storm cloud vanished, and she bestowed a warm smile on her childhood friend. Gyro hoped the smile reflected personal affection, and not just dreams of a Pulitzer.

"Okay! I need to learn all about what you've done here, Gyro. The whole world needs to learn! I can't believe you granted me an exclusive!"

"The least I could do for my dearest friend," Gyro said dashingly. He motioned toward the door, and moved to drape an arm around Ginger's shoulders as gentlemanly guidance. But at the last moment, he hesitated. Those stink lines —

As they left the office, Gyro looked back over his shoulder.

Li'l Bulb was doubled over in silent laughter, slapping his knee.

Gyro wondered if he could possibly sneak back for a moment and kick his Helper's blank titanium butt.

ON THIS LOVELY sunshiny day, Duckburg was packed with tourists. Drawn by media reports detailing the unprecedented improvements to the familiar Disney attraction, visitors had swarmed in. The park employees and Duckburg's infrastructure were hard-pressed to deal with the flood of visitors. Lines had formed outside the restrooms (from which structures, Gyro was mortified to see, garish stink lines radiated in Hydran profusion), and also outside the snack stands (from which sinuous good-aroma tendrils, colored in various ice-cream shades and equipped at their tips with beckoning fingers, slithered out to olfactorily entice).

"Let's stroll down Main Street," suggested Gyro. As they walked past various storefronts — including Greer-Lish Pottery, now no longer run by Gyro's two mothers, who had sold the business and retired to Ariel's Palace, a floating Disney arcology — Gyro recounted his inspiration and the method by which he had endowed vanilla reality with these Lichtensteinian bells and whistles. Ginger nodded intelligently, recording his words on her pocket-pal.

Out from an alley raced a stray cat being chased by a loose mongrel

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dog. The dog's **yaps** were concretized as steely BB's, while the cat's **hisses** were a spikey corona.

Several feet past the alley, on a small outdoor stage, the actress wearing the concealing outfit of duckly sorceress Magica DeSpell went through her accustomed act, threatening her bound captives, Huey, Dewey, and Louie. To the amazement of the onlookers — and most likely to her own — Magica's mystical gestures were accompanied by actual spark trails and fizzing lightning bolts.

Shortly Gyro and his guest found themselves near one of the village's main attractions: Uncle Scrooge's Money Bin, repository of the fabled Number One Dime. A crowd of several hundred people were gathered in the square. Gyro now had a chance to see how certain of the utility fog's processing routines fully manifested themselves. For instance: the utility fog tried not to overlap individual speech and noise balloons, if possible. Positioning a balloon ideally above the head of each speaker, the fog would only layer the balloons like multiple windows on an old-fashioned computer desktop if individuals were crowded together, such as now.

Additionally, of course, louder noises and shouts produced proportionately larger displays, which perforce interfered with smaller ones. Quickly picking up on this, children had begun screaming in order to overlay their parents' words. The consequent decibel level was almost painful.

Gyro glanced up at a clock on town hall. "It's time for the daily raid by the Beagle Boys."

"As if I could ever forget," Ginger said. "Don't you ever wonder sometimes, Gyro, what kind of people we would have been if we had grown up in a normal town?"

Gyro astonished himself with his boldness. "Why, I think *you're* just perfect as you are, Ginger."

Ginger smiled and said, "Thank you," with Gyro's words hanging embarrassingly in the air between them.

Right on time a gunshot rang out, accompanied by an unprecedented leaden **BANG!**, and the trio of masked and stubble-faced Beagle Boys tumbled out of the Money Bin, clutching bags of loot. But as they ran from the arriving Duckburg police, something new was in evidence.

The Beagles were surrounded by motion lines.

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In the air behind them, the runners left day-glo jetstreams, and their pumping legs were hidden in spinning-prop effects, making the robbers appear to be torsos mounted on careening wheelchairs.

Disconcerted, the Beagles ground to a stop and began to wave their arms about, as if to shoo curious encircling bystanders away from their possibly dangerous appearance. Their arms exhibited ghost-replication: faint duplicates of their limbs traced the paths of their every movement.

Gyro turned to Ginger. The reporter with whom he was incurably in love was regarding Gyro as if he were a caged specimen of the bullet-headed Bomb Birds that Donald had encountered in "Adventure at Bomb Bird Island." "Heh-heh, quite harmless. Over a certain velocity and under certain emotional stresses, these effects kick in, you see...."

Now the Beagles were arguing with each other. One began to swear, and his curse words were represented in his balloon by various censorious icons: asterisks, whirlwinds, stars and such. A second Beagle decided that the show must go on, and he resumed running. Unfortunately, he tried to continue the argument at the same time, looking over his shoulder, and thus impacted a tree. Despite the protection of his foam costume, he fell unconscious to the ground, and a flock of twittering bluebirds began to circle his head.

"I need pictures of this!" Ginger said. "My camera's in the car."

"I'll come with you," Gyro said hastily, wondering how he would ever begin his romantic pitch under these awkward circumstances.

Together, Ginger and Gyro reached the main gated entrance to Duckburg. Departing the town limits, they headed toward one of the many parking lots. They were halfway there before Gyro noticed something.

Ginger's stink lines still attended her.

"No," said Gyro unbelievingly, "this can't be." His words were promptly ballooned.

Ginger stopped. "What's the matter?"

"The utility fog is supposed to be constrained within the perimeter of the town. No leakage."

Gyro looked back at Duckburg. A small mechanical figure was hastening through the gate toward them. In a few seconds Li'l Bulb had caught up with his boss. The assistant carried Gyro's pocket-pal, which the inventor had forgotten while focused on impressing Ginger.

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Gyro took the all-purpose device from Li'l Bulb. His assistant had already tuned the communicator to a news broadcast:

" — solar flares of unprecedented dimensions. All GPS satellites are out of commission. The system is not expected to come back online for a week. For further details, visit — "

"A week," moaned Gyro. "Without proximity constraints on their replication, the utility fog could fill the Earth's whole atmosphere in a week! This is awful! What else could go wrong?"

The answer to Gyro's rhetorical question was not long in coming. For over Ginger's head, a new kind of balloon had formed. Nubby-edged in contrast to the sharp lines of the speech capsules, its connection to its owner made not with a tail but with a series of bubbles, its species was self-evident.

It was a thought balloon. And it contained this observation:

*What a fuckup!*

GYRO'S WEARY HEAD lay cradled in his folded arms atop his silent desk. Suspended above the woeful inventor's noggin was a thought balloon filled with colorful graphic images: Gyro strung from a noose, Gyro with his head in a guillotine, Gyro wilting under a hail of stones thrown by an angry mob of citizens.

Some such fate, it seemed, was very likely to be his at any moment. For he had failed to stop the utility fog. And that mission was the only reason he retained his freedom, instead of languishing in some Federal oubliette, awaiting *the* trial of the young century, followed, no doubt, by public tarring and feathering. Oh, the frustration, not to mention the damage to his pride! And he had come so close —

Of course, a cautious Gyro, under the earlier influence of his mindbooster hat, had engineered a failsafe into the fog. A certain signal, broadcast on a certain frequency, was supposed to trigger instant shutoff in the nanodevices. And so, with minor reluctance, as soon as he verified that the fog had indeed seeped past Duckburg's city-limits, Gyro had sent that killer message. At first, all seemed well. But Gyro had not reckoned with mutations. Stray high-energy particles from the same solar flares that had decommissioned the GPS satellites had also jiggered with the

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quantum-sensitive nanodevices. One percent of the invisible critters ignored the shutoff command.

That proved to be plenty.

Consistent with Gyro's off-the-cuff estimate, during the past week the escaped nanomachines from Duckburg had contaminated every cubic centimeter of the globe's atmosphere up to several miles high. Despite their early near-extinction, the fecund utility fog easily filled all available niches. (Replication thereafter among the communicating contiguous nanomachines, as programmed, slowed to replacement levels.)

Within six days, the entire globe had been Barkserized.

Not very many people were happy with this. In fact, practically no one.

The bulk of the fog's pop-ups and hi-litings were surely annoying, yet easy enough to deal with. Although nobody really appreciated stink lines, for instance, signaling the inefficaciousness of their underarm deodorant, they could live with such indignities, since everyone else was subject to the same automatic insults. (In fact, one positive aspect of the silent invasion was that personal hygiene, as monitored by a partially functioning CDC in Atlanta, actually improved.) Perhaps people could even have learned to tolerate the truly ridiculous motion-lines that accompanied the intimate actions of lovemaking. (What *had* Gyro been thinking?) But the one intolerable aspect of the fog, the ultimate intrusion, were the thought balloons.

The same mind-reading circuitry found in Gyro's intelligence-amplifying hat existed in distributed form among the nanodevices. And all censorship filters had been wiped. Any thought that reached a certain density of conceptualization was fair game for display, as words or pictographs. Husbands and wives, bosses and employees, salesmen and news anchors, diplomats and world leaders — all found their formerly hidden sentiments suddenly spotlighted for anyone to read. International and domestic antagonisms that would not be settled for decades instantly blossomed.

The initial effect was similar to worldwide attack by deadly antipersonnel bombs that left infrastructure intact. Streets and public buildings emptied as people huddled at home (in separate rooms for each family member) closeted with their suddenly naked thoughts. And had most of society's vital services not been fully cybernetically maintained (Li'l Bulb's cousins, anthropomorphic or not, had no thoughts they were

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ashamed of), complete collapse of society would have swiftly followed this mass abandonment of the workplace.

Within a couple of days of the advent of this prosthetic telepathy, a few makeshift strategies to avoid the thought balloons had been devised. The highest levels of the world's many governments now functioned in airtight rooms whose atmospheres had been cleansed of fog by meticulous filtering. And since the dramatic yet wispy utility fog displays could be dispersed with a sufficent breeze, the few people brave enough to mingle took to carrying portable fans and blowing away their thoughts before they could be read.

During this crisis, Gyro had of course not been inactive. Spending debilitating hours under his neuron-goading hat, he strove to come up with some method of disabling the utility fog. But no easy answer presented itself. His best plan — to release killer nanodevices in sufficient numbers to eat up the fog — was instantly and loudly vetoed by every world leader. No one was willing to risk a second plague possibly worse than the first.

Today Gyro was at the end of his wits. Wracked by guilt — which manifested itself as an impressive yet weightless anvil atop his shoulders — he probably would have simply quit by now, had it not been for his small band of supporters: Mina, Ginger, and Li'l Bulb. These three stalwarts had never been far from his side during the past week. Mina, seemingly recovered from her heartbreak, handled all practical details, including meals. Ginger dispensed cheer, while filing report after objective and charitable report to her newspaper, and thence to an expectant and angry world. Li'l Bulb helped on the technical front. Additionally, Mayor Ramie, designated the official government contact with the criminal inventor, visited often, bringing with him blustery reassurances and encouragements, along with invariably innocuous thought balloons that testified to his essentially empty mind. (Already, there was talk of running him for Governor of California.)

There came a visible and audible knock at the door. How long ago it seemed, thought Gyro weakly, that first knock of Mina's proving his ill-omened brainstorm a reality. Gyro raised his weighty head, and the ever-present anvil recalibrated its location on his shoulders.

"Come in."

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Ginger Barks had lost her stink lines. Too busy to go home and get her perfume, yet not neglecting revivifying showers in the Happy Duck Research gym facilities, she no longer triggered the utility fog's repulsive iconography. Holding up incredibly well under the pressure, she actually looked more radiant by the day. Gyro loved her more than ever, yet had never felt her to be further out of his reach.

After that first harsh thought had escaped her in the parking lot, Ginger had been very careful to keep her displayed inner sentiments scrupulously neutral. This control *could* be achieved, but only by stringent acts of will most people found themselves incapable of. Prior practice with some form of meditation appeared to help, and Ginger had indeed been practicing Tibetan visualization techniques for many years, ever since interviewing the elderly Richard Gere in his retirement home in liberated Tibet.

The thought balloon above Ginger's head now conveyed her pity for Gyro, a pity more hurtful than scorn: *Poor guy! He looks like he's on his last legs. This can't go on much longer....*

Gyro pretended not to have seen this thought. (Already, an etiquette involving keeping one's gaze low was developing. Yet this tactic did not solve perhaps the worst feature of the thought balloons, which was often not being able to see your own. Gyro understood some people now never left sight of an arrangement of paired mirrors that would allow them to monitor their thoughts continuously.) Essaying a weak smile, he tried to put a positive spin on things.

"Well, Ginger, I'm planning to go under the hat again within the next hour. I expect this will be the turning point. At some point the solution has to come, you know — "

Ginger closed the door behind her and crossed the room. Unexpectedly, she sat on Gyro's lap. Ignoring his insubstantial anvil, she put her arms around his neck. "Gyro, don't fake it for me. Do you know what you really thought just then? 'She'll hate me if I fail.' I won't hate you, Gyro! How could I? I've known you since we were children, and you've never been anything but kind to me. But this insistence on being the brightest, on being infallible — ever since elementary school, it's made you almost unapproachable. I never felt I'd be good enough for someone who held himself to such impossibly high standards."

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Gyro relished Ginger's comforting touch. He felt simultaneously chastised and reinvigorated. "Well, you certainly see now I'm not infallible, and so do I. As for being the brightest — sometimes I think my Helper is smarter than me!"

"You're just human, in other words."

"Uh, very," agreed Gyro warily, sensing certain physiological responses to Ginger's weight in his lap. Then she leaned down for a kiss.

For the next twenty minutes, after the couple moved from chair to couch, their thought balloons fused and displayed a frisky scene only slightly more suitable for immature viewers than the physical reality of their entanglement.

As they were dressing, rather shamefacedly keeping their eyes away from their now separate post-coital thoughts, another knock sounded. Before Gyro could call out permission to enter, the door swung open. Dragging Gyro's thinking hat, Li'l Bulb trudged in.

The usually cheerful autonomous automaton seemed preoccupied, as if struggling with some important decision. Every line of his sexless frame expressed inner tumult. He brought the hat to Gyro, regarded the two humans thoughtfully for a moment, then went to a small locked cupboard with doors suited to his height. Keying them open, he revealed a shrine.

"Why, Helper, what is this? I never knew — "

Ignoring his boss, Li'l Bulb kneeled down before a triptych displaying three portraits: Isaac Asimov, Alan Turing and Hal 9000. In front of the triptych sat a model of the first printed circuit. Bowing his head, Li'l Bulb prayed silently for a minute or so. In response, the utility fog constructed a halo around his pointy bulb head. Finally rising, Li'l Bulb gestured to Gyro to don the hat, and the man did so. Then Li'l Bulb motioned for a hand up. Perched on Gyro's anvil-less, sex-soothed shoulder, Li'l Bulb opened up a port in the hat. He took off one glove, and it was instantly apparent that the port was meant to receive the four fingers of the assistant. Li'l Bulb jacked in, and nodded.

Gyro snapped his chin string.

Instantly, Li'l Bulb stiffened as if electrocuted! Real smoke began to rise from his ridged collar! Meanwhile, Gyro's face was undergoing contortions worthy of an exorcism. Ginger, horrified, dared not interfere.

With a conclusive, concussive **POOF!** both the hat and Li'l Bulb

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shorted out. The automaton toppled from his perch, swinging lifelessly from his still-socketed fingers.

With great reverence Gyro removed his hat with one hand, cupping Li'l Bulb's body in the other.

Above Gyro's head now flared a giant antique light bulb, signifying a Really Big Idea.

"I never even thought to try such a thing. He linked all his idiosyncratic processing power with the hat's," Gyro explained, "even though he knew the two operating systems were ultimately and fatally incompatible. But it worked. I know now how to deal with the utility fog. It's trivial."

Ginger poked Li'l Bulb gently with one finger. "And now your friend is gone for good?"

Gyro smiled. "Of course not. I'll just dig out one of his spare bodies and reboot him from this morning's backup. The little bugger never could resist milking humans for all the pathos he could get."

Ginger flung her arms around Gyro. "You did it then! You and Li'l Bulb! I've got to run and file my story now! Don't go anywhere!"

"I'll wait here forever for you, Ginger, if you tell me to."

"Oh, it won't be that long!"

On her way out, Ginger stopped in the doorway, turned — and blew Gyro a kiss.

The larger-than-life wet glossy red lips flapped across the room and plastered themselves on Gyro's cheek with a **smack!**

There were some things about this catastrophe he was going to miss.

The pride of the official Disney spaceship fleet appeared to hail straight from the Tomorrowland of seventy-five years ago, a finned rocket styled by Wernher von Braun, fit only to top some antique writing trophy. But its looks were as deceiving as those of Li'l Bulb. Its fantasy shell housed the latest in spacefaring equipment and drives, and the ship saw regular use ferrying rich pampered tourists to Disney attractions as distant as Minnie's Mars, Horace Horsecollar's Helios or Bucky Bug's Belter Bar.

Now, however, the retro-looking, fully provisioned craft was about to blast off on an Earth-saving flight carrying only a single passenger.

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Mayor Floyd Ramie of Duckburg.

A safe distance away from the soon-to-be-unleashed rocket flames, Gyro stood with his two friends, Ginger and Li'l Bulb. This last-named calf-high individual wore a miniature Chinese coolie hat atop his pointy ultraglass head, strictly as a fashion nod toward the hot Florida sun — an orb now obscured, but one which everyone hoped would soon reappear, once the massed utility fog from all corners of the globe ceased to form a dynamically maintained white roof above their heads.

Rebooted into a new body with no memory of his last few hours, Gyro's Helper had steadfastly refused to admit he might have sacrificed himself for his boss in another incarnation, even when presented with the sight of his own corpse. Furiously scribbling, he finished his first post-death note and passed it to Gyro.

With amusement, Gyro read aloud, "'Even Holy Asimov never perpetrated such a maudlin tear-jerker! Give it up!' Well, I think you protest a trifle too much, Helper. But if you want to pretend that you have no feelings for me, that's fine. I know what I know."

Li'l Bulb thumbed his blank nose at his boss, then left the room. In the week since, the feisty manikin had quite consistently carried out his duties with an air of blasé servitude that only made Gyro smile.

Quickly following his revelation about dealing with the rogue fog, Gyro had summoned Mayor Ramie to his office. When the bland and blustery fellow arrived, Gyro was happy to see that his accompanying thought balloon — despite the ongoing life-or-death crisis — reflected the man's typical vacuity, consisting mostly of an empty white canvas with some children's primer figures — Dick, Jane, and Spot — romping about.

"Mayor Ramie, how would you like to earn all the credit for ridding Earth of my accidental plague? I'm sure that a grateful global populace would let you name your reward afterward."

A puzzled expression occluded the Mayor's features, and his thought balloon changed to a depiction of a shyster trying to sell the Brooklyn Bridge to a rube. "Will I, ah, be, er, alive afterwards to enjoy my reward?"

"Of course. The one catch is that you'll have to stay in orbit for a year first."

Mayor Ramie pondered this proposal momentarily, his exteriorized thoughts symbolically represented by a slate with the equation **2 + 2 = ?**

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chalked on it. Finally he consented, saying, "It's only because I trust you personally, Gyro."

Genuinely touched, Gyro clapped a hand on the Mayor's shoulder. The utility fog produced a synthetic puff of dust and a couple of moths, as if the Mayor's clothes had been hanging in a closet for decades.

With the Mayor's consent secured, Gyro got busy with his simple plan, a basic variation on the Pied Piper fable.

Above all, the fog was cerebrotropic, flocking to individual loci of thought. All Gyro had to do was make one amplified pointsource of thought that outshone all others. So as not to interfere with this fog-seductive broadcast, the human bait should possess very few of his own thoughts to project.

Floyd Ramie matched that description to the tenth decimal place.

With Li'l Bulb's help, Gyro quickly cobbled together a new version of his thinking cap, one that simply radiated an irresistible come-hither to the fog. Once all the principals were assembled at Disney's Florida launching site, Mayor Ramie had been hustled aboard the ship wearing the activated cap. The instant results were impressive.

All the fog in the immediate vicinity began to collect above the rocket, forming a thought balloon large as a dirigible. This massive balloon depicted nothing but two gigantic words:

**COME HERE!**

The urge to swarm now radiated outward from one nanodevice to another. Even as they gravitated toward the impulse, they passed the baton of command backwards to more distant fellows. In a week's time, every iota of utility fog from around the planet had collected here, or died trying. In their amalgamated mass, they now formed a flat sheet spreading above many square miles centered around the rocket. Thick as clouds, the fog allowed a level of illumination equivalent to a stormy day.

Standing at the distant mission control, Gyro felt immense satisfaction. The solution was so elegant it almost made him forget his initial stupidity. Nothing remained except to send Mayor Ramie into space, taking the utility fog with him.

"I guess it's time," Gyro announced.

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Ginger stopped dictating her latest dispatch into her pocket-pal long enough to squeeze Gyro's hand. "I'm proud of you, Gyro. You never gave up."

"Maybe that quality of mine has its drawbacks. Never giving up on you was what caused this whole mess in the first place."

"Oh, Gyro, what woman wouldn't be flattered that someone loved her enough to risk the end of civilization as we know it to win her?"

Li'l Bulb corkscrewed his finger at the level of his temple and turned away in disgust. Gyro and Ginger kissed. Then, using his own pocket-pal, Gyro triggered the launch.

The inventor had expected the rocket to pierce the semi-living cloud, soar ahead, then pull the fog behind it. But he had forgotten the cloud's self-positioning routines. Seeking to maintain a stable distance from the rocket, the cloud lifted first above the needle-nosed ship as soon as it sensed movement. As the rocket climbed, the cloud went with it as a cloak, as if it were an enormous, message-imprinted, fluted silk handkerchief caught on the prow of the rocket.

Soon the rocket and its companion dwindled to a dot. Cheers erupted from happy bystanders. Ginger held up her communication device so that Gyro could make a public statement.

"Citizens of Earth, I apologize profusely for the past few harrowing weeks. Rest assured that the utility fog, lacking raw materials for replication in the vacuum of space, will all die within a year's time. There will be no further repercussions from this invention of mine."

But of course in between the moment when the fleet of aliens announced their proximity and their actual arrival in the Solar System, Gyro had had plenty of time to revise his opinions about the wisdom of mounting a gigantic welcome mat in orbit.

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*Susan Palwick's novel* Flying in Place *was published in 1992 and won the Crawford Award for best first fantasy novel. She spent most of the past few years earning a doctorate in comparative literature from Yale, which explains why she hasn't written much fiction lately (not enough for her fans, anyway). But nowadays she has a position at the University of Nevada, Reno, as an assistant professor and she's well into her second novel,* Shelter. *Her first story to grace our pages is a lovely new take on a classic fairy tale.*

# Wood and Water

## *By Susan Palwick*

KATERINA, MY LAZY daughter, has just tripped over a tree root. She won't get up. She lies there, sobbing, pinned under her heavy pack like a rat caught in a trap. "Stop sniveling," I tell her, "and stand up. We don't have time for this. We have a lot of ground to cover before evening."

"Ground to cover?" she sobs. "You don't even know where we're *going!*"

"We're not going anywhere," says Sofia, my spiteful daughter, fanning herself with her hand while she shifts from one foot to the other. "Nowhere at all, except on a wild goose chase of Mother's." She scowls at me and says, "There's no witch at all, is there? There's no one out here who's going to make us beautiful enough for the prince. Just you, Mother: just a wrinkled, crazy old woman."

When they were little girls, they thought I was the most beautiful woman in the world. I feel my eyes filling with tears, but I will not let my children see me cry. Sofia learned her spite from me. She learned it from

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hearing me mock that other one, my husband's daughter. "So go back," I tell her. I'm an old woman who's traveled as far as they have; my back feels broken in two and my feet are one throbbing mass of blisters and I've fallen too, today, more than once, and forced myself to get up each time. But then, I know what I'm running away from, even if I don't know where I'm going. "If you're so sure I'm crazy, go home."

"We can't go home!" Katerina says, raising her head. One cheek is smeared with dirt; twigs and leaves cling to her brown braids, and snot trails from her nose. She wipes her face with a grimy sleeve; the action does little to improve her looks. "We don't even know where we are. How can we go home?"

"If you were smarter," I tell the two of them, very glad they aren't, "you'd have trailed rocks behind you, or bread crumbs. As it is, I suppose you'll just have to stay with me. Anyway, you don't want anyone back home to see you like this, do you? As dirty and ragged as Ella's ever been, with a mere day left before the Ball? Ella gathering jewels and satin, and you two wearing mud? That would make a fine picture!" They glare at me; Katerina starts to whimper again. I nod at them, satisfied, and say, "Sofia, help your sister."

"You help her," she says.

In the end, we both do. I grab one of Katerina's arms and Sofia grabs the other, and we haul her and her pack, two leaden sacks of meal, reluctantly upright again.

I had to lie to get them to leave. I woke them at dawn, when I knew they'd still be groggy and less inclined to argue. I'd already packed food and blankets, and fresh water — safe in its wax-sealed jars — from the stream outside the cottage.

Katerina and Sofia didn't want to get up, of course, much less burden themselves with packs and set out into the forest. That was the kind of work we'd always made Ella do. "When one of you is a Queen," I told them briskly, "none of us will need to carry anything ever again. But for one of you to become a Queen, you must be more beautiful than Ella is. She has magic on her side: very well, we will enlist magic too. There is a witch who lives in the forest. She has promised to help us. But you must come with me now, and you must bear your own burdens, for so the witch has said."

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My talk of magic roused them. We had all seen the birds fluttering around Ella, bringing her jewels and clothing. Katerina had tried to lure the birds with bread crumbs, but they only took her food and flew away, leaving nothing in return; Sofia had tried to trap them with snares, but her traps always came up empty, the bait eaten.

I knew, and did not tell my daughters, why the birds only brought gifts for Ella. I knew — because Ella had told her father, who told me as we undressed for bed one evening, early in our marriage — that every day she prayed at her mother's grave. The birds were heaven-sent, surely, for by all accounts, Ella's mother had been a saint. I was not, and my daughters were not. Had they had any inkling that killing me and praying over my grave was the way to get lovely dresses, they might just have done it.

I hardly wanted to take the chance. Nor could I bear to admit that Ella's mother, even in death, had more power to help her daughter than I had to help either of mine. Sofia and Katerina were not loving or obedient children, but they were the only ones I had, and they were my only route back to royalty. I was no longer young and beautiful enough to marry a prince; one of my daughters would have to do so for me. Only then would all three of us be able to return to the ease and luxury we craved, far away from that cramped farmer's cottage at the edge of the forest.

How we hated that cottage, all of us! How glad we were that Ella was there, lonely and grieving, hardly able to fight us when we bullied her into service. How we jeered at her for living in the past, crying for her mother every evening instead of joining us in our cards and gossip, our sweets and scheming. I hated that dead mother, the woman whose shoes and bed I could never fill, the woman whose widower always loved her more than he loved me. And I hated myself, for marrying him merely to have a roof over my head and food on the table.

We've stopped for the night, at last, after stumbling about the forest for hours. Every time I find a path that looks as if it might lead us out of the woods, to some other town or some other castle, it dwindles into thorns and dead branches, and I curse my own fear and foolishness. How could I have left with no idea where we were going? How could I have left without even the simplest map?

Sofia and Katerina stumble after me, alternately cursing and

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whimpering. "There's no witch," Sofia tells me. "You're lying! You don't know where we're going!"

"The witch is testing us," I tell them, and Katerina moans.

When we finally stop, just before dusk, I give them bread and cheese to eat, build a fire, spread our blankets and pillows on the cold ground. Instead of thanking me for warmth and food, my daughters whine and complain. The ground is too hard and too rocky, and the fire is too smoky, and they want something hot to eat, some soup or some tea.

"Be quiet," I tell them, for the thousandth time today. Every time I hear a rustle beyond our fire, my dread of wolves and bears deepens, but I say nothing to my daughters, lest they panic and desert me. "Think about living in a castle again," I tell them. "That will be worth everything, won't it?"

The old charm works; they sigh in unison. "I miss the castle," Katerina says longingly. "I never had to lift a hand there, never had to wait for anything, for I had many servants, not just one, and they dared not disobey me. I had music always, without even having to ask for it, and I never had to learn to play, for my servants played for me, every moment that I was awake. Oh, when shall I be a lady of luxury again?"

I do not answer. The servants who played music for her were those other two sisters, their eyes pecked out by birds, their toes sacrificed to the knife and the gleaming glass slipper. Unable to see, barely able to walk, they were fit only to play the harpsichord and the flute. Katerina will learn to play music soon enough, if I can find no other place for us.

"I miss the castle," Sofia says bitterly, her eyes glittering. "I miss the parties where my gowns were always the most splendid and my jests always the wittiest. I miss dancing and flirting and seeing all the folk of the village pass through our halls. I miss my falcon and my fine steed; I miss the thrill of the chase. Oh, when shall I be a woman of the world again?"

I do not answer. The music to which she danced came from the fingers of women once as worldly as Sofia; she will be as blind and lame as they, if I can find no other place for us.

And the meat Sofia brought back from her hunts was cooked by the servant they have forgotten, the hag in the kitchen, forever minding the hearth. She is the one who handed her daughters the knife; she is the one

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who told them to lame themselves. Thanks to her, I never dressed a roast after leaving my father's house. But I will turn the spit soon enough, if I find no other place for us.

MY DAUGHTERS HAVE never known about my childhood, because I never told them. They have never known that I grew up in a cottage like the one we just fled, and that I spent those years doing endless chores. How could I tell them that I spent my girlhood scrubbing floors and peeling potatoes, weeding the garden and tending the fire? How could I tell them that once upon a time I was grimy and had no shoes and wept bitterly at the cruelty of my stepmother and her two daughters? My pride could never bear that my own daughters learn my origins. And so they do not know that, once upon a time, I was the golden-haired girl in the kitchen, waiting and dreaming, rejoicing when love and magic came at last.

By the time Katerina and Sofia were old enough to have understood my story, even had I chosen to tell it, I had grown bitter and my prince, now the obscure king of an unimportant realm, had grown bald. No matter: there were music and dancing and visitors, a world for my daughters to conquer, although none left for me. I contented myself with ordering our servants about as I had once been ordered, and with grumbling because no good or faithful servants could be found. All the help left us, except those three: the blind, lame musicians and their mother, who kept our kitchen. Her teeth had rotted and her sight had dimmed, and whenever she saw me she reached out a wrinkled, gnarled hand and mumbled a curse, drool running down her chin.

The story circles back ahead of you:

Unless you stir yourself, you'll stir the stew.

I told myself she was mad, and I did not mourn her when she died of the same illness that claimed her grieving daughters and, mere days later, my husband. Soon after that it claimed the village below the castle, the peasants whose rents had sustained us. Penniless and terrified of plague, I left the castle, setting out into the world with my two girls behind me. Soon enough, and far enough away for health, we met a kind farmer and his meek daughter, and soon enough I married him.

When did I realize that I was still living the same story?

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* * *

I awake at dawn, feeling as if I've hardly slept: rocks and sticks poke me in the back and buttocks, and my head has somehow abandoned the small pillow I brought from home in favor of a pile of rotting leaves. My mouth tastes like dust and poison. I moan, raise myself on one elbow to check on Sofia and Katerina — still fast asleep, Sofia on her back with her mouth gaping open and Katerina on her stomach with her limbs flung out as if in flight — and gingerly force myself upright. I forgot to bring a trowel, and there is no outhouse here: I will have to make one myself. So I stumble into the undergrowth and find a clear spot and a branch to dig with, and as I crouch, doing what I need to do, I send up a fierce prayer: to God, to the spirit of that toothless hag in the kitchen, to whomever might hear me. *I know where not to go. Now show me where to go. Show me what to do, damn you! Even basting the roast would be better than this!*

As I emerge back into the clearing where we slept, I see Sofia sitting up, her blanket wrapped around her shoulders. Her hair is tangled; a leaf pokes from behind one ear. "Well, Mother," she asks coldly, "have you had a vision? What joyous journey are we taking today, pray tell?"

I want to tell her to journey wherever she wants, as long as it is far from me, but I hold my tongue. Sofia is more likely than her sister to marry a prince, since she possesses what passes for wit and looks more shapely in a busk. "We will continue the journey we began," I tell her, and she snorts.

"I'm hungry," Katerina says, her voice muffled by the blankets around her face. "Mother, what's for breakfast?"

"Dreams and delusions," Sofia says. "Our mother has gone quite mad, Katerina. There is no witch, nor ever has been. Do you know, Mother, I think you don't want us to go to the ball? I think you're jealous. You couldn't stand to see us being courted by noblemen when your husband is only a wretched farmer. What do you say to that?"

I want to hit her, but I keep my voice calm. "I say this, Sofia: scoff at witches if you will, but Ella's birds have brought you no gifts, for all your traps and tricks. When you perfect your own magic, you may scorn mine."

"Brave words," she says, and laughs, but Katerina, looking grumpy, pokes her head out of the blankets.

"Mother? Mother, I'm thirsty, and my water jar is empty."

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"Well, then, take another," I tell her, but Sofia favors me with a thin smile, and when I check the water-jars I packed so carefully yesterday morning — years ago, it seems now — they are broken and empty on the ground, barren shards scattered among rocks, all my hard work with sealing wax gone to waste.

"You," I tell Sofia, enraged. Stupid girl! "You did this when I was sleeping — "

"Oh, Mother. I wanted you to have less to carry. Surely your witch will give us water — and if she doesn't, why, we'll just have to go home, back to the stream, won't we? If we start now, we might even get back in time for the ball tonight."

When did I realize that I was still living the same story?

The day before we left, I ransacked the house, trying to find where Ella had hidden the gifts the birds had brought her, the jewels and fine clothing. I found nothing except Ella herself, chopping vegetables in the kitchen and cringing when she saw me, because she expected to be pinched. I stood there, watching her, smelling onions and carrots, and remembered how much I had loathed the same work when I was her age. And then I remembered my own stepmother, standing in a doorway like this one and glaring at me, just as I glared at Ella now, and quite suddenly I seemed to be standing in both places at once, and then there was a third figure there, too: the crone, the old woman with her singsong voice whispering her curse. *The story circles back ahead of you; unless you stir yourself, you'll stir the stew.* And at that moment I realized that she was my future, that old woman, just as the girl was my past, and with a shudder — for I had always hated and feared the crone — I realized that she had not been cursing me at all. She had been warning me. She had been trying to save me from her own fate.

And so the next morning, I ran, and took my daughters with me. But now we have no water, and we are lost, and I am afraid. For there is no witch to save us, and if I do not become the crone, what else is left?

It should not be so hot in the forest, for hardly any sunlight reaches here, through the thick leaves above us; below them, we are enmired in thorns and branches, through which we have struggled all day. I feel

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myself burning with thirst and fever, although I should not be so parched so soon; behind me Katerina moans and sobs, and Sofia whispers continually, "Mother, take us home, Mother, there is a stream there. Home, Mother, home to water, home to the Ball. Mother, take us home."

But I cannot. I do not know the way. And so we hack through dry branches and tear our skin on thorns, and as we bleed our thirst increases, and I find myself wondering if my daughters could be any worse off having their eyes torn out by birds than they are now, here, with me. Katerina plucks at my arm with a burning hand, begging me to stop, begging me to lie down and let her die, and Sofia says hoarsely, "We must have water. Mother, we must. Mama, I'm thirsty!"

And even though she is the one who spilled the water out, something stirs within my ribcage when she calls me *Mama,* for she has not called me that for years, not since she was tiny and I sang lullabies while cradling her in my arms. "Mama, I'm thirsty too," Katerina moans, and I remember her voice waking me at night, although my husband the king always snored on soundly. *Mama, I had a bad dream. Mama, I'm thirsty. I want water.*

My daughters. My babies. I must find water for them. I take another step and another, pushing aside dead branches, fighting for my daughters' lives and my own. And at last the thorns clear away; we stand in a circle of grass now, and there, look, across the grass: berries. I drag myself to them, pick a handful, and squeeze half the juice into Sofia's mouth, half into Katerina's. Their mouths gape and they beg wordlessly for more, and I pick handfuls and handfuls of berries until my daughters are sated.

And now I must have juice too: but there is none left. I have picked all the berries for my children, and surely I will die. I shudder and begin to weep, the first tears I have cried in front of my daughters since their father's death. "Mother," Katerina says, plucking at my sleeve, "Mother, I hear water!"

And Sofia pushes me, urging, "Just a few steps. Here is the stream. A few more steps and you can drink, Mother, Mama — "

I stumble forward in a daze, peering ahead. Yes: here is a stream at last, a stream like the one we left behind, a stream like the one we crossed to get away from the cottage, to get into the wood. I know this place.

They have tricked me. They have led me back to the cottage, and we

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will go to the Ball tonight after all, and nothing will change. I will hand them the knife, and the birds will peck their eyes out. They will become lame and blind, musicians for the king's daughters, and I will become the hag in the kitchen, and all three of us will die, unshriven, of fever.

And now they are pulling me into the water, my two girls. They are pushing my face down and they are going to drown me, I know it; but I am not drowning, I am drinking instead, drinking and drinking until I must burst. When at last I raise my head, I see that Katerina and Sofia have crossed the stream; they are on the other side now, walking away from the banks, toward that place that looks so familiar.

"Come back!" They must not go there. They must not go back to Ella and her father. I do not want them to be blind and lame; I do not want them to suffer. That is not why I dragged them through thorns and squeezed berries for them; that is not why I braved the darkness and the beasts that live within it.

"Come back!" I call again, but they do not even turn. And I realize, stricken, that I must tell them the truth: I have no other weapons now. If I tell them the story, maybe they will come back. If I tell them the story, maybe I will be able to save them. "Look at me," I shout at their retreating backs. "Look at me, your ugly mother: do you know who I am? *Look at me.*"

And at last they turn, wide-eyed, astonished by my violence. "I'm Ella," I shout at them, "I was Ella, forty years ago I was beautiful too, oh, *damn* you — "

I can't tell if I'm shouting at myself now or at them, at Ella scrubbing pots in her father's kitchen or at the crone, stirring the stew by my husband's hearth. Tears blind me as I wade across the stream, desperate to rescue them, desperate for some sign that everything I have done, everything I have lived through, has not been in vain.

But when I set foot on the opposite bank, emerging onto this place where I know I have stood before, it is not the cottage I see, but a grassy mound, surrounded by fruit trees and topped with a simple cross. I hear birdsong, and I hear Sofia saying, "Mother, whose grave is that?" And I remember.

I came here every day after she died, because I hated my father's new wife. I came here every day, and every day the birds brought me gifts:

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flowers, fruit, small things that cheered me. Every day I prayed: *Mother, Mother, help me get away from the cottage. Help me get away from that mean woman and her daughters. Oh, Mother, I miss you.* And so the birds began to bring me jewels, and stuff for a fine gown, and indeed I got away, all the way to the castle. I got away, and I buried my memories as deeply as my own mother was buried, nay, more deeply even than that. Fleeing the bad, I left the good behind as well.

I fall to my knees. I remember her voice now, before she died. "Your eyes are more beautiful than dancing flames," she told me, "and your heart is more precious than ruby or pearl. You are my own treasure, no matter what you wear and no matter what you become." And I believed her, and with that spell I enchanted both myself and the prince.

"Thank you," I say aloud. I thank my mother for showing me what I could become and I thank that other mother, the crone, for showing me what I did not want to be. "Thank you."

"Is this the witch?" Sofia asks, puzzled. "The witch who'll make us beautiful?"

"She's dead," Katerina says, frowning. "This is a grave. I don't understand."

"Yes," I tell them. I am more tired than I have ever been in my life. "This is the witch. And she's still alive. Everything is going to be all right." And as I speak there is a flutter of wings overhead, and something falls into my lap: a feather, brown and soft.

All three of us look at it. When I touch it, it becomes a small pile of seeds.

"They aren't jewels," Katerina says.

"No," I answer.

Sofia grunts. "What are they for? What does the witch want us to do with them?"

"She wants us to plant," I say quietly, and above us, the birds break into a jubilation of song.

We eat from the fruit trees and drink from the stream, and then we sleep. I wake at dusk to find Sofia and Katerina plucking at me. "Mother," Katerina says, her voice hopeless, "we're missing the Ball. And we aren't

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beautiful yet."

"You're missing nothing," I tell her, shaking myself awake.

"Mother," Sofia says sadly, "are we ever going home?"

"We are home. We're home now. Come, help me build a fire."

They help me, although I know it is only because they are afraid of the dark. They are both weeping now, grieving their lost chances. They huddle around the fire, and I let them cry. "I'm ugly," Katerina keens, rocking herself by the fire, "ugly, ugly, I have no beautiful clothing and my feet have blisters and I'm scratched and dirty, and oh Mother, I'm too fat, my hair's too brown, no one will ever love me, Mother, Mother."

"I love you," I tell her, and take her in my arms and stroke her rough brown hair, that hair she hates so. "When you were born, my sweet first baby, you were as red and wrinkled as a raisin. You were bloody and howling and hungry. You weren't lovely, but you were alive and you wanted to live, and to me you were the most beautiful thing I had ever seen. And you still are. Only your sister is as beautiful to me as you are, of all the creatures in the great wide world. Your brown hair is the color of ale, of nuts, of solid sheltering wood: you are all healthy, merry, sturdy things. I love your strong body because it will carry you through all trouble and illness, through hardship, through the birth of your own babes."

"What of me," wails Sofia, as she rocks herself, sobbing, "what of me, I'm not fat and healthy, Mother, Mother, I'm as skinny as a pole and my knees are two knobs and my hair is coarse and black, Mother, Mother, no one will ever love me."

"I love you," I tell her, and take her in my arms and stroke her thick dark hair. "When you were born, my sweet second baby, I thanked God for you, because I had been ill when I carried you and I was afraid you would be born ill too. You were red and wrinkled as a raisin, and much smaller than your sister had been, but you howled hungrily because you were alive and wanted to live. I knew then that you were tough and strong, for all that you were little, and that your strength would carry you through ány trial life could offer. Only your sister is as beautiful to me as you are, of all the creatures in the great wide world. Your black hair is the color of the plucky crow, of deep midnight which always contains within it the promise of dawn, of the pitch that holds homes together: all tough, tenacious, surviving things."

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And as I speak, I find that I believe my words, as fully as my own mother believed in my own beauty. My daughters stop crying and shiver, gazing into the flames. "Mama," Sofia says, "how can we be home? How can we live here? What prince will have us?"

"We will build a house," I tell her, "and we will have each other and ourselves." I know she doesn't understand me, but I also know that if we give ourselves to princes, we will find ourselves living their lives, not our own.

"Mama," Katerina says, "what will we eat, and how will we cook it? We will die of hunger, Mama!"

"We will garden and hunt," I tell her. "The forest will sustain us, and we will work to sustain ourselves. I will learn how to work again, and I will teach you, for work is not such a terrible thing, my Katerina."

I know she doesn't understand me; she still dreads struggle. But I also know that when we cease our efforts, we give away our lives. And I will not teach them to do that. I will not watch their eyes be pecked out, and I will not hand them the knife and tell them to cut off their toes. My daughters are not expendable: not for this story, or any other.

And neither am I.

At length they fall asleep again, embracing each other as they have not done since they were babies. I look toward my mother's grave, toward the cross dimly glimmering there in the firelight. I am still afraid, for now we are well and truly lost, although we are home at last. Tomorrow we must begin to chart a new wilderness, a place without paths: the unknown regions of a story that has never yet been told.

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# A SCIENTIST'S NOTEBOOK

## GREGORY BENFORD & GEORGE ZEBROWSKI

### SKYLIFE

FIRST THERE was a flying island.

Then there was a brick moon.

The inventors, Jonathan Swift *(Gulliver's Travels,* 1726) and Edward Everett Hale (grandson of Nathan), were not entirely serious. Still, the significance of their visions reached well beyond the engineering inventions of the eighteenth and nineteenth centuries. In Hale's alternative to living on Earth, "The Brick Moon" (1869) and its sequel, "Life on the Brick Moon" (1870), people set up housekeeping inside Earth's first artificial satellite and did quite well. Hale's artificial satellite, the first known presentation of the idea, called attention to a technological innovation implicit in our observations of the Earth-Moon system and that of the other planets that possess moons.

What nature could do, we might also do.

We, the third type of chimpanzee, fresh out of Africa and swinging in trees, thought of lofty havens.

For Hale, the artificial satellite meant not only a technological feat but also the expansion of human possibilities, a vision of social experimentation beyond the confines of Earth. Space exploration has ever since carried the hope of a social and cultural renaissance springing beyond the planetary cradle.

Such visions increased toward the end of the nineteenth century and throughout the twentieth, as if humanity were trying on one after another. Now the United States is launching the parts for the greatest skylife hostel yet — to mixed reviews. Understanding the transparently foolhardy enterprise demands some historical perspective. Living

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in space is in the end about more than a hotel room in the sky.

It does not seem strange in hindsight that the idea of space colonies should have become so prominent in the United States, a nation that has itself been described as a science fictional experiment. The American attempt at a dynamic, self-adjusting utopian vision — based on a constitutional separation of powers and the intended, orderly struggle of those powers with one another as a way to deal with a quarrelsome human nature — is still in progress. But it is also held back by the limits of planetary life.

The first major twentieth-century vision of humanity in space was set down in all seriousness, and with extraordinary thoroughness, by the deaf Russian schoolteacher Konstantin Tsiolkovsky (1857-1935). He did not try to match Jules Verne and H. G. Wells as a writer of stories, but his fiction and nonfiction set out with great imagination and technical lucidity the scientific and engineering principles for leaving Earth, and presented nearly all the reasons, cultural and economic, for expanding human capabilities beyond Earth. He saw that the entire sunspace was rich in resources and energy and could be occupied. Every step from space capsule to moonship was itself a small habitat, a way of taking a bit of our home world, its air and food, with us into the cosmos.

For many years the concept of space habitats lived mostly in science fiction stories. Olaf Stapledon's *Star Maker* (1937) described the use of whole worlds, natural and artificial, for interstellar travel and warfare. Edward E. "Doc" Smith, today called the father of the *Star Wars* movie saga, used planets similarly in his Skylark and Lensman series of the 1920s, '30s, and '40s. Isaac Asimov, in his Foundation stories of the 1940s, showed us Trantor, an artificial city-planet that rules the Galaxy. Don Wilcox's "The Voyage that Lasted Six Hundred Years" (1940) introduced the idea of using generation starships to reach the stars, in the form that was to be often imitated, one year before Robert A. Heinlein's more famous story "Universe" and its forgotten sequel "Common Sense" — gritty realistic dramas of travelers aboard a space ark who learn, in the manner of a Copernican-Galilean revolution, that their world is a ship.

The uneasy familiarity of generation starship stories springs from our seeing the Earth as a ship, the stars as other suns. We glimpse how

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our view of the universe changed in the last thousand years. Earth is a giant biological ark circling its sun. As in Heinlein's "Universe," the dispelling of illusion and misconception lays the groundwork for surprising hopes and the expansion of human horizons.

Behind the science fiction stories stood visionary nonfiction such as J. D. Bernal's 1929 *The World, the Flesh, and the Devil*, which pictures an urban ring of worlds around the Earth. In the 1950s, Arthur C. Clarke and Wernher von Braun envisioned space stations as giant wheels spinning to maintain centrifugal "gravity." They thought that such stations would orbit the Earth to observe weather, refuel interplanetary spaceships, and train astronauts who would later set up bases on the Moon and Mars — conservative proposals that even today we have not fully exploited.

Engineer Dandridge Cole, in his bold and comprehensive visions of the early 1960s, called space settlements "Macro-Life." These might be new habitats constructed from advanced materials, or nestled inside captured asteroids, hollowed out by mining their metals. Isaac Asimov described the same concept as "multiorganismic life" and coined his own term, "spome," as the space home for such a way of life. Cole envisioned Macro-Life as the ultimate human society, because of its open-ended adaptability, and delved into its sociology. Asimov proposed the scattering of spomes as insurance for the survival of humankind. Both thinkers saw space settlements as a *natural step*, as important as life's emergence from the sea. As amphibians would venture into the thin air of the shore, we would carry our biology with us.

Cole wrote:

"Taking man as representative of multicelled life, we can say that man is the mean proportional between Macro-Life and the cell. Macro-Life is a new life form of gigantic size which has for its cells individual human beings, plants, animals, and machines.... Society can be said to be pregnant with a mutant creature which will be at the same time an extraterrestrial colony of human beings and a new large-scale life form." Cole defined his habitats as a life form because they would think with their component minds, human and artificial, move, respond to stimuli, and reproduce. Residing in space's immensities offered a unique extension of the human community, an innovation as fundamental as the

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development of urban civilization in the enlightened Green city-state. Yet living in the rest of the space around our sun re-created some desirable aspects of rural life, since habitats would have to be self-contained and ecologically sophisticated, with the attentiveness to environment that comes from knowing that problems cannot be passed on to future generations. Perhaps this nostalgia was crucial in the American imagination, with its rural past so quickly vanishing.

The arguments presented for such a long-term undertaking are economic, social, and cultural. Few would deny that the solar system offers an immense industrial base of energy and mass, enough to deal with all the material problems facing humanity.

We live under a sky ripe with fundamental wealth, but our technological nets are too small to catch what we need from the cornucopia above our heads.

Yet hard science had to come before high dreams.

While science fiction writers used the idea of space habitats for dramatic stories, engineers and scientists brought to it an increasingly revealing verisimilitude. Fundamentals of physics and economics came into play.

Space colonies have some advantages over our natural satellite, the Moon. A rocket needs to achieve a velocity change of 6 km/sec to go from low Earth orbit to the lunar surface. That same rocket can go to Mars with only about 4.5 km/sec investment, if it uses an aero-shell to brake in the upper Martian atmosphere. Also, any deep space operations could be much better managed from an orbit out beyond the particle fluxes of our magnetic Van Allen Belt, a fraction of the way to the Moon.

I've had a steady conversation with Buzz Aldrin for the last decade about his personal dream of returning to the moon. It's about hard realities.

Lunar resources are principally rocks that have about half their mass in oxygen. But the Moon has nothing we can unite with that oxygen to burn, such as hydrogen or methane. Since oxygen is a big fraction of chemical fuel mass, usually about three-quarters, the Moon's oxygen would be valuable if it did not cost so much to lift into orbit.

We would also need very high temperature techniques to bake the oxygen out of hard rock. As I put it to Buzz, suppose we found ordinary

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sidewalk concrete on the moon. It would be, relative to the local rocks, a bonanza: we would mine it for water. That's how dry Luna is.

Early on, many noted that in energy expended, once one has lifted a mass from Earth to the orbit of the Moon, one is halfway to the Asteroid Belt — indeed, to most of the rest of the solar system. This is because the planets have considerable gravity wells, but the difference in gravitational energy between the orbit of the Earth and, say, an orbit as far away as Mars is not great. A typical asteroid, gliding in its ellipse between Mars and Jupiter, moves at about 24 km/sec. Earth moves about the Sun at about 30 km/sec. That difference of 6 km/sec (the delta-V, in NASA-speak) is what a spacecraft must provide to move between those two regions.

Velocities are easy to think about, even if they're in the ball park of miles per minute. But what rockets provide is energy, which is proportional to the *square* of velocity. This means the difference in rocket fuel between 24 km/sec and 30 km/sec is six times larger than the simple difference in velocities would make you believe. So saving velocity changes is big business.

There are other factors, too. Many asteroids do not orbit the Sun in precisely the same plane as Earth (the plane of the ecliptic); changing that inclination costs about a km/sec for each two degrees of alteration. To reach most interesting asteroids requires changes of about four degrees, so the total cost in "delta V" is 10 km/sec.

Going from Earth's surface to the Moon's orbit requires 11.4 km/sec, about the same energy cost.

To someone contemplating a livable satellite in roughly Lunar orbit, then, getting raw materials from the asteroids is equivalent in energy expenditure to lifting resources from Earth. Even though the asteroids are, in total flight distance, a thousand times farther away, they have advantages.

Maneuvering in deep space is a matter of slow and steady, not flashy and dramatic. High-thrust takeoffs from Earth are expensive, and payloads have to be protected against the heat of rapid passage through the atmosphere.

A tugboat spaceship operating in the asteroid belt could load up long chains of barges and slowly boost them to the needed 10 km/sec, taking perhaps months. Powered by lightweight photovoltaic cells, the tugboat runs on sunlight, with perhaps backup from a small nuclear reactor. It would sling mass out the

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back at high speed, using an electromagnetic accelerator as a kind of electrodynamic rocket. The mass would come from the asteroids themselves, which are rich in iron.

Once the barges were set on their long, silent, sloping trajectory toward the inner solar system, the tug and crew would cast off. They would return to the asteroid mining community, to start hooking up to the next line of barges.

At the end of their eight-month flight to Earth, the barges would be pulled into rendezvous with a factory that would break down the metals they carry. The cheapest method of using these resources would be to manufacture finished goods in orbit, taking advantage of the ease of handling provided by low or zero gravity. Otherwise, the costly shipping of raw materials down to Earth's surface becomes necessary.

But such shipping assumes that Earth will forever be the final market. It would cost perhaps $10,000 per pound to move metals from the asteroids to near-lunar orbit, a cost far higher than that of supertanker transport on our oceans. And the manufactured product would still need to be moved to the market for it on Earth. Clearly a better way would be the construction of colonies and factories in orbit themselves.

The logical end of this argument is simply to move an asteroid into near-Earth orbit. This demands the setting up of electromagnetic accelerators on a metallic asteroid and slinging mined packets of iron-rich mass aft to accelerate the whole body.

The tugboat becomes the cargo. Studies show that at the optimum exhaust velocity of the slung pellets, about a quarter of the asteroid's mass would have to be pitched away at about 50 km/sec to get the asteroid into near-Earth orbit. We can already do this with electromagnetic guns developed in the U.S.

In moving the asteroid, one shapes it, hollowing it out for the mass to sling overboard, and applying spin to produce centrifugal gravity on the inner surface. We know a good deal about what asteroids contain, from studying their reflected light. Even today, prospectors can know more about the composition of an asteroid a hundred million miles away than they can find out, without drilling, about what lies a mile below their feet.

Asteroids should be good sources of the metals hardest to find in Earth's crust. They should

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also have the structural integrity to sustain a moderate centrifugal gravity on the inside, once a cylindrical space has been bored into them. A simple equation demonstrates the relation between spin and radius:

$$A = R \times S^2/1000$$

Here A is the centrifugal acceleration in units of Earth's gravitational acceleration, so A=1 is Earth-normal. S is the spin of the cylindrical space in units of a revolution per minute. R is the radius of the hollowed-out cylinder in meters.

For example, consider a cylinder of 100 meters radius and spinning about three times per minute; then A is near Earth-normal. The importance of this equation is that one can select high R (for a big colony on the inner surface of the cylindrical space) and spin it slowly, or high spin (large S) and a small colony, low R. NASA experiments of the 1960s showed that people in small containers could take spins up to 6 revolutions per minute without disorienting effects.

Living constantly in such conditions demands heavy shielding, about two meters of dirt or rock. This sets a huge requirement for the built-from-scratch O'Neill colony which was to come in the 1970s. That design had to carry this mass in its outer rim and support its centrifugal "weight" with steel struts — a huge fabrication and construction job, even using raw materials from the Moon. By comparison, a cored asteroid is much safer.

The asteroid's massive outer layer would easily protect against background radiation, especially cosmic rays. These "heavy primaries" flooding our solar system are nuclei of helium, carbon, iron, and higher elements. They smash through matter, leaving a train of ionized atoms that can kill a living cell.

The Apollo astronauts noticed these energetic events as bright flashes in their eyes every few minutes, even in total darkness. Venturing outside both the Earth's atmosphere and, more importantly, its magnetic field which serves as a shield against cosmic rays, the astronauts incurred some nerve and cell damage, though it was insignificant. James Gunn, in his novel *Station in Space* (1958), presented this as a disquieting detail, a prediction actually, calling our attention to human frailty outside its usual environment.

The hope behind ambitious plans was that opening the solar system to industrial development would provide two important resources —

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sunlight and metals — right from the start. Early visions considered dropping metal-rich rocks directly onto the Earth, making iron mountains to mine. Imagine having to write the environmental impact report for that today! — and having to calculate risks, get insurance, and so on.

The second development stage would come atop the first: direct manufacture in space, using the advantages of zero gravity and vacuum.

Chemicals and nutrients mix much more thoroughly in zero gravity, since they do not settle out by weight. Making "foamsteels" with tiny bubbles evenly distributed throughout seems possible, greatly reducing mass while losing little strength. Growing enormous carbon filaments for superstrong fibers seems straightforward. Similar methods, as spelled out in the late G. Harry Stine's *The Third Industrial Revolution*, sparked the optimism of the 1970s.

Generally, the more scientists learned of space as a real environment, the more hemmed in the writers became. But while the "hard" science fiction authors used these stubborn facts to fashion clever and insightful stories, the visionary intuitions behind the central idea remained plausible, and technical scrutiny supported the high dreams.

Stanley Kubrick's *2001* showed us a classic Bonestell-style space station, complete with interior views. The banality of the character's conversations was a deliberate commentary on the contrast between our closed-in selves and the wonders of our works.

Shortly afterward in the 1970s, Gerard O'Neill, a prominent particle physicist at Princeton University, conducted an advanced engineering feasibility study on space settlements (for undergraduates!), and reexamined these same ideas. O'Neill's group optimistically concluded that the technology already existed. The Moon could be mined as a source of raw materials, and once the first worldlets were built, they would quickly reproduce. The colonies would build solar collectors and beam microwave power back to Earth, plus exporting to Earth manufactured goods.

O'Neill asked whether such a space settlement would be viable. There was the problem of the two meters of necessary background radiation shielding.

Plus, it had to run its ecology on solar energy. How?

A crucial difficulty governs using raw sunlight. Most schemes

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envision capturing strong sunlight, converting it into microwave energy, then transmitting it by large antennas to Earth, for transformation into electrical power. Later studies showed that unmanned satellites in lower orbits would provide power more cheaply, but these studies led to no projects. As we shall see, the social dimension has loomed large in the plans of even the most detailed technical scenarios.

Direct sunlight is fine and good as a source of electrical power, but growing crops for people in the O'Neill-style colonies is another matter. Plants require considerable power themselves; a square kilometer of prime cropland absorbs a gigawatt of sunlight at high noon — the power output of the largest electrical powerhouses, capable of supporting a city of a million souls.

Sure, under less illumination plants still grow, but evolution has finely engineered them; at a tenth of the solar flux, they stagnate. This means that no artificial environment can afford the costs of growing plants beneath electrical lights.

However, the raw sunlight of space is harsh. Earth-adapted plants would wither under the sting of its ultraviolet rays. There is more solar power available in space, but it is at the high end of the spectrum, which on Earth is filtered out by our ozone layer and atmosphere.

Certainly ultraviolet absorbing canopies can be deployed, but the weather between the worlds has harsher stuff in store. Thin greenhouse shells on O'Neill colonies would not protect against solar flares of such ferocity as occur every few months. Defending people and plants against these fluxes of high-energy particles demands at least five-inch-thick glass, a massive measure.

Indeed, O'Neill colonies have much of their design dedicated to protecting people against solar storms by providing interior shelters. But people can be moved to shelter for a few hours; crops cannot.

In the early 1980s O'Neill spoke throughout the United States to drum up support for his ideas and for the National Space Society, which he founded. Already the O'Neill-colony idea (a term he modestly never used, preferring "L-5," the abbreviation for the orbital Lagrangian point which some thought would make the most stable orbit for a colony) was beginning to fade from the public mind. The 1975-85 spike in oil prices was momentary; fossil fuel would within five years plunge to the same cost level (in inflation-adjusted dollars) as 1950.

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O'Neill's basic assumption, that electrical energy would be hard to generate on the Earth's surface without high costs both economically and environmentally, may yet come true, within a few decades. But market forces and improved technology have taken a lot of steam out of the argument.

Still, O'Neill's salesmanship put the entire agenda forward as no other cultural force had. Economics was central to the movement, blended with social ideas. The cover of the paperback edition of his *The High Frontier* proclaimed: "They're coming! Space colonies — hope for your future." And the back cover sold space colonies as future suburban paradises, with Earth as the city to flee.

Historical parallels abound. The immigrants of the *Mayflower* and the Mormons who moved to Utah came with about two tons per person of investment goods. Freeman Dyson in *Disturbing the Universe* argued that these are better societal models for space colonization than the O'Neill notion of totally planned homes.

O'Neill's detailed "Island One" project would cost about $96 billion in 1979 dollars, and perhaps twice that today. Clearly, such a project would be so massive that only governments could run it. As Dyson remarked, "[Government] can afford to waste money but it cannot afford to be responsible for a disaster." O'Neill argued that his colony could build solar collectors and beam microwave power back to Earth to pay its bills. At the energy prices of the late 1970s, he said, the $96 billion could be repaid within 24 years. But a colonist would take 1500 years to pay off the costs by his own labor, which means the colony would always be a government enterprise, subject to the vagaries of political will of those who lived far away — not a prescription for long-term stability.

Thus Dyson favors asteroid colonization, precisely because it could be done for less and by large families, not large nations. He imagines settlers moving out from early orbital colonies, though not necessarily of the massive O'Neill type. He invokes even scavenging, noting that "There are already today several hundred derelict spacecraft in orbit around the Earth, besides a number on the Moon, waiting for our asteroid pioneers to collect and refurbish them." The satellite business would dearly love to see such debris erased from the equatorial orbital belt, since collisions with them loom now as a significant threat to orbital safety.

O'Neill revisited ideas that had

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been around for most of a century, both in serious speculation and in visionary fiction, but he gave them the plausibility of the latest styles and engineering methods in space exploration. As Gary Westfahl's pioneering study, *Islands in the Sky* (1996) reminded us, the extensive science fictional history of this idea had been forgotten.

Westfahl writes that "there are four times during the development of the genre when space stations emerged as important factors — and four times when they faded from view." These were in the late nineteenth century, the 1930s, the 1950s, and the 1970s. Since science fiction has often predicted developments in space travel, this repeated decline of interest in space habitats shows that science fiction is not immune to the waxing and waning interest in ideas as they emerge in serious speculation and in popular culture. The reasons for the decline in project planning may have been human fears, lack of political will, and economic cold feet, with science fiction following suit, often with critical or disappointed treatments of the idea — except in the cases of innovative authors, who in more disillusioned periods might seem out of touch to readers and critics.

Our construction of the U.S. Space Station *Freedom* in the late 1990s portends a fresh burgeoning of an idea that in science fiction has become a staple used for both utopian and dystopian visions.

In both fictional worlds and in the possibilities waiting in the real world, to confront space habitats seriously means a complete change in our outlook toward the solar system. Many have argued persuasively that the grand project of uplifting the bulk of humanity to the economic level of the advanced nations requires use of the solar system's resources, especially since manufacturing entails a level of pollution that the biosphere cannot abide. (This hard fact makes impossible the more cozy stories of expansive industrial futures.)

To use the resources of our sunspace demands treating it as a genuine "new frontier," not just as a place to go and come back from. But the fundamental changes needed to create a sunspace society are simply too radical for many people, who see such changes as either frightening or infinitely risky. Perhaps it is right for social systems to leave innovation to the visionaries and pioneers; either they will succeed or fail, thus alerting the culture about which way to grow.

Unfortunately, our skeptical culture's critical resistance may also

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destroy valuable developments, leaving them to emerge at a later time or to die.

The style of discussion and pictorial presentation of skylife changed by the 1970s, but the substance was the same. Once again it dawned on researchers — scientists and engineers as well as writers of science fiction — that the planet of our origin may not necessarily be the best place to carry on the business of civilization; that this inadequacy, born of limits that threatened to choke off the possibilities made plain by our increasing knowledge and technology, might hold for all natural planets; and that sooner or later, we might have no choice but to build the city of man elsewhere.

Next time, I'll consider how it all might turn out.

This column will be published an anthology of space station stories, *Skylife*, to appear in spring 2000. Comments appreciated at gbenford@uci.edu.

## COMING ATTRACTIONS

OUR LEAD STORY NEXT MONTH is a big science fiction story of the sort we haven't seen in a while—a political adventure story that comes straight to us from a well-conceived future. Its author, Albert Cowdrey, draws on his own experiences of working in the government in creating a realistic milieu of backstabbing politicos and power-brokers. Don't cheat and use a time machine to read this story early—you'll just spoil the fun for everybody.

Next month we're also going to introduce you to a new writer by the name of Rick Heller. His debut story, "Loyal Puppies," is a fast-moving romp that's a lot of fun.

Of course we'll also have our usual nonfiction features next month, including Robert Killheffer's latest book review and another look at "Nightfall" compliments of science columnists Pat Murphy and Paul Doherty. We're also looking forward to new stories from Ron Goulart, Rick Wilber, R. Garcia y Robertson, M. John Harrison, and N. Lee Wood in the coming months. You never know who might drop by our pages with a new tale to tell—keep your subscription current so you won't miss any of 'em!

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*Robert Reed's first collection of short stories,* The Dragons of Springplace, *was published last year and considering how steadily he produces new stories, he'll probably have eighteen more collections out soon. While there's nothing certain on that front, it is true that his latest novel,* Marrow, *is currently slated to appear in May.*

*Bob's first story for us this year (there will be more—we promise) is an unusual consideration of the way of all flesh.*

# Due

## *By Robert Reed*

WE REACH HIM TOO LATE, pulling him out of the curing pond, nothing left but a melted body and a pain-twisted face. For a moment or two, we talk about the dead expeditor, how he was good and why he wasn't perfect, and why he killed himself — because he was imperfect, but noble is why. Then we wash his face and kiss him, as is customary, and I deliver the body to Scrap.

Our plant manager needs a report, but she doesn't want stories of another suicide. She tells me that she doesn't. So I describe it as an accident, another misstep from the high corundum mesh, and maybe we should repair those railings during the next down cycle. But she doesn't want to hear that, either. "No cycles but up." She is delivering a threat. "We're too far behind as it is, Jusk."

I nod. I smile. Then I ask, "When can I have a new expeditor?"

"Three shifts," she warns. Which means ten shifts, or more. Then she gives me a hard stare, eyes and silence informing me that it would be so lovely if this little problem vanished on its own.

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I step outside.

Traffic is scarce in the main corridor. I walk exactly as far as I can without leaving home, waving at the passing birth wagons until one pulls off. The driver shows me his cargo, but only one of the newborn is large enough to do the job. I ask what it will take for that big one to be lost during delivery, and the driver says, "I can't." He says, "That's a special rush order, that one."

A lie, most likely.

"Wait," I tell him. I go inside, then return with a piece of raw Memory. Memory has no color and very little mass, and of course it is incomplete. It's salvage. That's the only kind of Memory that's ever traded. Laying it flush against his forehead, the driver sighs and grows an erection, then says, "Deal." It's the Memory of one of His long-ago lovers — a popular commodity. The driver is even willing to help carry the newborn through the closest door, he's so eager. Then I give him a look, asking where he got that Memory.

"I found it," he says. "I don't remember where."

"Good," I say.

My crew is at work. Standing in the main aisle, I can see our entire line — bug ovens and the furnace; the curing pond and finishers — and I see the tiny faces that look over at me, curious and eager.

"Keep working," I tell them. Then, "Thank you."

With laser shears, I cut the newborn out of its sack. It's a big worker, all right: shiny and slick and stinking of lubricants and newness. I unfold the long, long limbs, then engage its systems. There's no way to be certain what job it is meant to do, but anyone can be anything, if needed. All that matters is that we serve Him.

I kick the newborn in its smooth crotch.

With a flutter, its eyes open, absorbing light for the first time.

"My name is Jusk," I tell it. "I'm your superior. This is my right hand. Shake it with your right hand, please."

It obeys, without hesitation.

"Stand," I say. Then after it succeeds, on its first attempt, I tell it, "Walk with me. This is your introductory tour. Pay close attention."

"I shall."

"What is my name?"

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"Jusk."

"On your left is a stack of crates. Look at them. And now look at me. How many crates did you see?"

"Fifteen."

"What are the dimensions of the third-largest crate?"

"Point one by point one by point four standard."

"Now, without looking, tell me the serial number on the top crate."

The newborn recites twenty-three digits before I lift my hand, stopping it.

"Good," I say. "You're integrating nicely."

The mouth can't yet smile, but I sense pleasure. Pride. "What do you make here?" my new expeditor inquires.

"Bone."

Its eyes are simple black discs, yet by some trick of the light, they seem astonished. Or disappointed, perhaps.

"It's not a glamorous product," I concede, "but bone is vital." What would He be without a skeleton? Without His handsome, most perfect shape? "You'll be my expeditor. That's a critical job. Before you begin, you'll need to find an identity. A name and face, and a body suit."

It nods.

"Culture a sense of self," I advise. "My strongest workers have the strongest identities."

It says nothing.

"You'll find everything you need in Personnel. Mock-flesh. Eyes. Everything." I watch it for a moment, then add, "Most of us pattern ourselves after someone from His past. A trusted friend, a lover. Whomever. Just as long as it honors Him."

The newborn is a head taller than I, and strongly built. Simple eyes gaze at my face. At my workers. Everywhere. Then it speaks quietly, warning me, "I'm not supposed to be here. I was intended for another duty."

"Except you're needed here." I have given these tours to more than a hundred newborns, and none has ever acted disappointed. "Come with me," I tell it. "I want to show you something."

The stairs and high platform are a blue corundum mesh. The ceiling and distant floor are polished diamond, smooth and lovely, and the walls

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are a rougher diamond, catching and throwing the light. I point to Personnel, then the back doorway leading to the warehouse, and I name each of the five assembly lines. Every line has its own bug oven, squat and rectangular, the exteriors plated with gold.

"You're my expeditor," I promise. "You'll feed my oven whatever raw materials it needs."

"Your expeditor," it repeats.

"Once you've got your name and face, visit the warehouse. Ask for Old Nicka. He'll show you what else you need to know."

"How big is this place?"

"Huge, isn't it?" I love this view. I always have. "It's nearly five thousand standards long, from Assembly to Shipping."

"Yet this is all so tiny," my expeditor observes. "Compared to Him, this is nothing."

I look at the faceless face, uncertain how to respond.

"How many workers?" it asks.

"Including you and me, five hundred and eleven."

"And who am I replacing?"

Newborns never ask that question. They're too grateful to be alive, and the prospect of anything else should be unimaginable.

"Was it a suicide?" I hear.

"No. An accident."

Beyond the eyes is doubt. Clear and undeniable doubt.

"Why bring up suicide?" I have to ask.

The tiny, simple mouth seems to almost smile. "I must have overheard something. I'm sorry."

New ears might have heard one of my people whispering, yes.

"We run a careful clean shop here," I warn it.

Softly, very softly, it says, "Due."

"What's that?"

"My name." With a long delicate finger, it writes Due against its own bright chest, in His language. "That is me."

"Fine," I allow.

Gazing down at my home, and his, Due tells me, "It's surprising. You only make bone, but look how beautiful this is...."

As if it should be anything else, I think.

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"I think I'll stay," proclaims Due.

As if any of us, in any large way, has the burden of choice.

AGES AGO, WHEN the construction teams were erecting our plant, there were plans to include a large chapel where we would have worshipped Him in our spare moments. It would have been a glorious chamber filled with inspiring Memories free for the touching, plus likenesses of His family and trusted followers. But according to legend, a sudden decree put an end to that indulgence. Instead of a chapel, the workers were told to build a fifth assembly line, increasing the production of bone by a long ways. And what's more, every existing chapel inside older plants were to be converted immediately, their space dedicated to making more of whatever those plants produced.

Time is critical, the decree tells us.

Maybe not with its words, but in the meaning that the words carry between them.

*Hurry,* He calls to us.

*Hurry.*

"That new man — "

"Due?"

"Gorgeous." Mollene giggles, dancing around her work station. "I just wish he'd notice little me!"

Nothing on or about Mollene is little.

"So he found himself a pretty face," I say.

"Not pretty," she warns. "Gorgeous. The whole package is. Handsome and strong...but not too strong...!"

"Which means?"

"He's delicious," she purrs, and that from a woman who has tasted more than a few. "Am I right, Tannie? Tell him I'm right!"

Tannie works across from Mollene. The women are old, nearly as old as this plant, and while they're both durable, it's a durability built in different ways. Tannie is small, quiet and glum, not prone to courage or her partner's hyperbole. Yet even she admits, "He's one of the most beautiful creatures that I've ever seen."

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"I told you, Jusk!" cackles Mollene.

"You did. You did."

The women are a good team. A great team, even. When I was made line foreman, I had an inspiration, putting them together at the bug oven's mouth. It takes good hands and balance to handle the freshly made bone, and it takes experience. And nearly two thousand shifts have passed since my inspiration. Much has gone wrong on the line, but nobody's better than Mollene and Tannie when it comes to giving our bone its first look and delicate touch.

"A glorious, gorgeous man, and he didn't look at me," Mollene sings. "You like to have your looks at me. Don't you, Jusk?"

Her mock-flesh is old and often-patched. The knees and elbows are worn thin, a band of softness encircles her waist, and her big strong confident hands are shiny where the real Mollene peeks through. Yet even still, she is spectacular. Broad thighs and hips serve to carry her central features — two jungles of shaggy black mock-hair, and between the jungles, a pair of enormous, endlessly vigorous breasts complete with fat nipples that she paints a shouting red at the start of every shift.

"I love looking at you," I tell the magnificent woman.

She giggles, and in thanks, gives me a few good bounces.

As I recall, Mollene fashioned herself around the partial Memory of an early love — an insatiable older woman from His long-ago youth. By contrast, Tannie based herself on the wife of one of His current deputies — the kind of woman who has said perhaps five words to Him in His life, if that.

But of course everyone is important to Him.

He treasures every face, no matter how small the person behind it.

As I think, a sheet of hot white bone emerges from the oven, built of fibers and resins and a maze of finger-thick pores. Together, in a single motion, the women lift the bone and place it gently, gently onto the aerogel belt. It looks like perfect bone, at first glance. Mollene lifts a laser pen, ready to sign her name where it won't be too obvious. Every worker does it; a signature is a harmless way to leave a trace of yourself. But she pauses, noticing several coagulated masses of bugs clinging to the far side. To Tannie's side. Each mass looks like a drop of honey — a gooey golden substance that I've seen only in His memories — but unlike honey, the clusters are hard as jewels, and in a glancing fashion, alive.

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"How's the bone?" Mollene calls out.

Tannie is prying off the bugs. Sometimes they're just stragglers, and the bone beneath is fine. Is perfect. "It looks all right," says the old woman. But then she touches it, and shudders, jerking back her hand in pain.

"What is it?" I ask.

Tannie cradles the hand with its mate, her tiny brown eyes staring off into the distance. "The bone's bad," she says. "Something's wrong...in the oven..."

Mollene curses enough for three people, and with a relentless strength, she jerks that sheet of bone off the belt, getting beneath it and carrying it to the pallet where she's been stacking Scrap, her substantial ass jiggling in time to her quick steps.

I take her place, for the moment.

The next bone is even worse. Instead of a seamless snowy white, it's a pissy yellow, and the pores are more like out-and-out holes. Something's very wrong in the bug oven. Which isn't new news, of course. Our plant is more than ten thousand shifts old, and over time these bugs acquire mutations. Subtle failures of control. And a nasty tendency toward laziness.

With an iridium hammer, I smack the emergency kill switch.

Diamond chains and matching gears come to a grudging halt.

What next? I wonder.

Maintenance should be told — that's policy — but Maintenance means slow solutions and acidic, accusing questions.

Hanging beside the oven are a suit and helmet and boots. Each is made from antigen-free mock-bone. That's how we fool the oven and its bugs. And they have to be fooled, or they'll assume that an intruder is just another raw material — a collection of soulless atoms waiting to be gnawed to nothingness, one atom at a time.

Bugs can't recognize a helping hand.

They're stupid, and dangerous, and I despise them.

Mollene returns while I'm dressing. With her voice and a touch, she tells me, "Darling, please be careful."

You don't rise to foreman without knowing caution, at least now and then.

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The oven doors are gold-faced bone, heavy and slick. The chamber beyond is furiously hot and singing with bugs. Most of the mindless bastards are too small to see. Bristling with jointed arms and buckytube mouths, they build perfect fibers of proteins and plastics, ceramics and shape-memory metals. Other bugs, larger by a thousandfold, knit the fibers together. Then the largest few extrude the resins that finish the bone, creating a simple perfect and wondrously strong skeleton worthy of Him.

Duty grabs me, forcing me deeper into the oven.

The closest sheet of new bone is gray-black and brittle, its corner shattering with a touch of my gloved hand.

I crawl beneath the bone, then look up.

Clinging to the oven's ceiling, to one of the oven's bug-wombs, is some sort of phage, round and jeweled with spikes and sucking mouth parts. Climbing onto the diamond belt, I reach high with one hand. But as I grab the phage, it strikes back, a stream of brownish fluid rolling thick down my arm, making it taste wrong. Making it seem dangerous.

The oven panics, marshaling every defense against the intruder.

My arm is the intruder.

I wrench the phage loose, then I'm running in a cowardly stoop, fleeing across a dozen standards of tangled and rasping bug heaven.

My suit is pierced. A burning begins on my hand and forearm, then the pain falls to nothing in the most terrible way. Glancing down, I see a ragged stump that's being gnawed shorter by the instant, an army of tiny sparkling flecks trying to kill me.

The phage lies on the floor behind me.

Using my good hand, I grab it. But more of that damned juice leaks out, splattering wildly, the bugs launching a second assault, happily gnawing away my final hand.

I have nothing left to hold with.

The phage drops in front of me, and with more luck than skill, I kick it, sending it flying through a gap in the doorway. Then I stagger out after it — what is left of me — my arms shrunk to wagging stumps and my helmet half-digested. But I see Mollene standing in the golden light, waiting for me with those lovely breasts; and if I wasn't half-dead and repulsive, I would kiss her breasts. And I'd kiss Tannie's tiny ones. That's how good and how awful I feel.

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Poor Jusk, I tell myself.

Nearly murdered, and desperate for the saving taste of love...!

"You'll like these arms," the man promises, not caring the slightest about what I like or don't like. "They're good arms, mostly."

I don't know him. He wears extra-thick flesh like everyone in Maintenance, and a solid broad face, and judging by the smooth, unworn condition of his hands, he's very young. A novice, at best. No one else is free to work on me, what with the bug oven damaged and nobody sure how bad it is.

"How do the arms feel?"

"Wrong," I admit.

"Lift them. And again." His careful adjustments make everything worse. "Now once more. Is that better?"

"Much," I lie.

He seems satisfied. "Yeah, they're good arms. We didn't need to refurbish them all that much."

"What's important is *you*," says another voice. A tense, acidic voice. Stepping into view, the plant manager conjures up a look of haggard concern. To the maintenance man, she says, "They need help at the oven."

He makes a grateful retreat.

I gesture with my tight arms. "What do we know?"

"About the phage? It was built for sabotage." She speaks in a confidential tone, admitting the obvious. "Officially, we're reporting it as a contaminate from outside. The sloppiest bug ovens are making some free-ranging parasites...."

"Why lie?"

"Do you want to deal with Security troops? Do you, Jusk?"

The obvious occurs to me: Who's in the best position to sabotage a bug oven? Its line foreman, of course.

She watches as I flex my new arms, then she steps close to me, using a spare tool to make her own adjustments. I forgot that she began in Maintenance, back in that remote era when the plant was new. Her face belongs to His mother — a strong handsome face that was popular in the early shifts but isn't seen much anymore. She looks young, exactly the

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same as she looked when He saw her as a young boy, complete with the wise sparkle in the pale brown eyes.

Leaning closer, her mouth to my ear, she whispers, "That new man. How exactly did you find him?"

I tell, in brief.

"Due? Due?" She keeps saying the name, softer and softer. Then finally, without hope, she asks, "Do you know where that wagon was taking him?"

"No."

The wise eyes are distant. Who can she contact, in confidence, who might actually know something? Who can help us without Security finding out that we're involved in an unthinkable crime?

Again, I lift my arms. "They feel fine now. Thanks."

Once more, she says, "Due?"

"Good arms," I say, for lack of better.

Then she looks at me, asking, "You know where they came from, don't you?"

From the recent suicide, sure. But I was rather hoping to get away without having to mention that.

I am Jusk.

In my locker, set between a flesh patch kit and a sample of the first bone that I helped build, waits a frazzled piece of Memory. I found it in Personnel. Whenever I place it against my forehead, I see my face just as He saw it. Not unhandsome, I like to think. But there's a vagueness about the edges, which is why this Memory is here. A tangle of imperfections make it unworthy when it comes to His glorious rebirth.

I know precious little about the man behind that face.

A loyal deputy, he is.

And judging by the clues, someone trusted. Practically a friend.

In the Memory, the deputy tells Him, "You look twenty years younger, sir. It's remarkable what these treatments can accomplish."

He laughs in response — a calm and wise and enormous laugh — and with a voice that I have always loved, He promises, "And this is just the start of things."

He lifts His hand before His own eyes.

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I'm helping to rebuild that hand. Inside it is the bone that I am making; in a fashion, I'm one of His deputies, too.

"In a few years," He says, "we'll all be gods...."

"Yes, sir — "

"Just fucking wait!" He roars.

Then the hand drops, and I can see my face smiling, and the man behind that face smiles, saying, "I can hardly wait, sir — "

THE BUG OVENS are down for inspection, every line useless, and for the time being, a holiday holds sway. People distract themselves with talk and little parties. The usual orgy claims its usual corner, perched on a mat of scrap aerogel. Lubricated with grease, the bodies almost glow, limbs twisting and mouths crying out, the participants working at their fun with an athletic despair. I pause for a moment, watching faces. Where I should be is on my belly inside my own oven; foremen should show the proper interest, even if they can't help make repairs. But I want to speak to Mollene first...where is she...?

She's not in the middle of the lovers, which is unlike her.

Hearing a stranger's voice, I walk up the polished aisle, coming across a second group of people doing something unexpected.

They are sitting quietly, listening as the stranger speaks calmly, describing the true shape of the world.

"We live on a great sphere," he says. "What seems perfectly flat to little us actually falls away in every direction, equally and always. Without end."

I know that voice but not the handsome face.

*Due.*

"Pick a line," says the newborn, "then walk it. Provided you stay true to that line and live long enough, you will walk around the world. But of course that trip takes trillions of shifts. By the time you return home, this facility will be gone, its atoms scattered over that enormous world, and not so much as single memory of us will persist."

His audience murmurs quietly.

Mollene sits in front, eager to absorb the lesson.

"And our round world is part of another, still larger world," the

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newborn continues. "A trillion trillion times larger and several times older. And infinitely stranger. That world is a ball, too, but in its own peculiar fashion."

I find myself listening. The voice compels me to do nothing but.

"Think of a black cold emptiness," says Due. "That larger world is carved from that blackness, and within it are an uncountable sprinkling of little worlds like ours."

Mollene leans closer to him, begging to be noticed.

Due grins at his largest admirer, then asks, "What's the shape of an atom?"

"It's round, too!" Mollene exclaims.

Not exactly, I remind myself. The furious wanderings of electrons can make a round shell, but it's too easy to call them balls.

Yet Due agrees with Mollene. His new eyes are bright and gray, his smile nearly guileless. "What if I tell you that Creation — all there is and all there can be — is always built from spheres? Round atoms become round worlds, and those worlds become the rounded universe, and there is no end to the round universes that make up Creation...."

I work hard to say nothing, to let this useless noise vanish on its own.

But Tannie, standing at the back of the audience, asks the obvious: "How do you know these things?"

Due expects the question. He welcomes it. Nodding, he waits for a moment as if in reflection, then confesses, "I don't know how I know. I was born thinking these things, the same as I was born with these simple hands."

What could I say to that?

Keeping silent, I try to look unimpressed. There's no easy way to wrestle Mollene away from her new love. Instead, I slip behind the others, approaching Tannie and whispering, "A moment? I need to talk to you."

She seems glad for the distraction.

"Have you ever heard such talk?" I ask the old woman.

I expect her to say, "No," but instead she tells me, "When I was a newborn, the old discussed strange things."

"Like worlds within worlds?"

"Sometimes. Yes."

The audience is asking questions. How big is the world in standards?

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And exactly how much bigger is the blackness beyond? But the dimensions aren't part of Due's special knowledge, it seems. "You and I can't comprehend these distances," he warns. "We're too tiny. Too limited by a long ways."

Too stupid, he means.

In a careful murmur, I ask Tannie what I meant to ask her partner. "Did that newborn come close to you? While you were working, I mean. Did he ever, even for a moment, touch the oven?"

She looks at me, a worn hand wiping at her patched forehead.

"Mollene must have flirted with him," I add. "I've seen the symptoms."

"I never saw him near the oven," she assures me. "He was returning to the warehouse for supplies, and he paused for a moment, just to see what new bone looks like."

"And to flirt?"

She shakes her head. "I know what you want, but I can't give it to you."

I'm not sure what I want, yet I feel disappointed.

Another thought occurs to me. "When you touched that bad bone, you made a face. Why?"

She shakes her head for a long moment, then says, "I don't remember."

I mean to press her, but suddenly Mollene is talking. "But what does all that mean?" she blurts out. "I'm sorry to be slow, but I don't understand."

The newborn smiles, and with an easy charm, he says, "Maybe what I'm saying is that everything is tiny. Even those wonders that we look at as being enormous...they're always small in comparison to *something*...and never quite so wondrous..."

The words don't sound important, but they hit me like a wall of tumbling bone.

Due is talking about He who is our purpose.

Without ever breaking taboos, he tries to diminish our great and glorious Him.

Old Nicka has ruled the warehouse for my entire life, and he has always been Old Nicka — a small man not meant for physical labor, clad

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in mock-flesh worn transparent by the ages, his face patched and patched again, its original shape irretrievably lost. Yet despite time and wear, he can tell you exactly how many nine-gauge buckybug wombs are in storage, and how many are on order, and which of them will most likely work once installed.

"How's my new expeditor?" I ask Old Nicka.

His response is nothing but honest. "He's smart in the worst ways, and stupid where it hurts, and dreamy, and he talks too much, and he'll never be any sort of expeditor. If you want to know what I think."

I nod, then mention, "You never thought I'd make much of one, either."

"So where are you now?"

"I'm the line foreman. You know that."

"Because you couldn't cut it as an expeditor." A crooked smile shines. "But so tell me, Jusk. Why ask about that newborn? On his first shift...?"

"Curiosity," I offer.

His eyes are mismatched in color and size. The newer eye, brown and huge, regards me for a long moment. "Do you want to speak with the boy? He's in the back, counting my stock of D-grade smart-clamps."

"Why? Did you lose track of your inventory?"

"No! He just needs practice with his counting." The battered old face is masterful when it comes to scorn and outrage. "Next time you buy a newborn off a wagon, make sure that he can count."

I nod.

"Is there anything else? Or do you want all of my time?"

Someday, Old Nicka will die from simple age — the rarest of deaths — and once I forget how he was, I'll miss him, sentimentality winning out over good sense.

"Due is dreamy and talks too much," I repeat. "Does he talk to you?"

"Not anymore."

"But when he did...did he talk about the universe, and Him...?"

"What about Him?" Old Nicka growls.

I repeat what Due said, and what it seemed to mean, and what Tannie claimed to hear when she was young.

"Some of that sounds familiar," Old Nicka admits, thoroughly

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unimpressed. "But this piss about calling Him small...that's just stupid...even for you, Jusk...!"

I bristle, but remain silent.

"We can't measure His size, or any other quality." A tiny hand, more metal than flesh, is driven into my chest. "Not His wisdom. Not His goodness. None of those things are knowable — !"

"I realize that," I mutter.

"Child," Old Nicka replies, both eyes focusing on the highest shelves of his empire. "We are too small to know anything but *this*. What we can see, what we can count." He withdraws his hand, then promises, "If someone ever tells me that He is small, I will kill him. Immediately, and gladly. And with His blessing, of course."

THE SHIFT ENDS, FINALLY.

With the blaring of the first klaxon, each crew allows their line to run until empty. The last of the new bone is packed, then shipped. The freshly repaired bug ovens are placed into sleeping modes. Trash and every tool are set in the open. Then with a practiced haste, we begin to climb the bright blue corundum stairs, zigzagging up and up as the second, final klaxon roars, warning us that the janitors are being released from their bunkers.

I pause, just for an instant. A silvery wave of frantic, nearly mindless machines are racing down the aisles, spraying their spit and piss into every corner, then working their way back again, licking up their juices, and with them, consuming every unwelcome molecule of grease, any diamond grit, plus severed toes and the flesh of workers too foolish or too feeble not to make the long climb.

The world beneath grows dark, and very loud.

One last set of stairs takes me to the roof. As always, my crew sits together, in an orderly line. Umbilicals deploy from the aerogel sky, inserting themselves into our feeding ports. What comes from Him tastes especially delicious tonight; I think it, and others say it. Wagons race back and forth in the main corridor. We talk among ourselves, discussing the past shift — gossip, mostly — and we make plans for the next shift. I make our plans. But I slowly realize that nobody hears me, including me. Due is talking. Again.

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This newborn is incapable of saying anything that isn't strange.

"What do we know about Him?" he inquires. "What is His nature?"

He is everything to us. He is vast and vital, and we exist only to serve Him. Everyone born is born with that knowledge.

"But how do we serve Him?" asks Due. "Tell me: Why does He need the likes of us?"

Because something horrible has happened to Him. Unimaginable violence has torn apart His body and His mind. We have been born to do nothing but repair what can be repaired, and build the rest of Him from the soulless atoms.

But Due knows that already. He knows it, yet he can't give the answer in ordinary terms. "This bone plant, and the twenty million million plants just like it...they constitute a civilization...a civilization that arose just to serve Him...!"

The most noble of civilizations, I tell myself.

"Why is this our shape?" he asks, regarding his naked self. "Two hands, two legs, and one two-eyed head...why are such things important...?"

A long pause.

More than my crew are listening to him. His audience stretches across the roof; every line crew maintains a respectful silence.

"By wearing this shape," I hear, "we are honoring Him."

The voice belongs to Mollene.

With a stern patience, Due says, "Honor is something given. But our shape was given to us, not chosen by us."

"So why are we this way?" cries an irritable voice.

My voice.

"This shape is adaptable. And more important, it is familiar." Due waits for a moment, then adds, "We resemble Him in many ways, of course. Intellectually and emotionally, he once was much as we are now."

I feel a weakness spreading through me. A deep chill.

"Then He became more than us. The bugs made him stronger and immortal, and they refashioned his mind, making it swift and powerful." A long pause. Or does it just seem long? "At first, the bugs didn't have us to help them. But of course even tiny souls know the hazards of relying too much on nanoscopic agents. These agents are industrious, and stupid.

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And dangerous. What if they mutated and slipped free of their ovens, out of our plant and across our civilization's borders...spreading over the true world...?"

Bugs are demons; I know this better than I know the shape of my own hands.

"Between the very small and very large stands us," Due proclaims. "We have been placed here to control the bugs, and in that sense, we are defending the world."

A shudder and low moan move through his audience. The words have an authenticity that dispels doubt and every question. Revelation, I'm thinking, is a substance more real than sapphires, more perfect than the purest diamond, and it's always too small to be seen.

"That's why we exist. To protect the world...!"

"And to protect Him, too," I add, by reflex.

Due says nothing.

Then after a long moment — it is a long moment, this time — he asks, "Why does He make us wear these faces?"

"Nobody makes us," I begin to say. It is our choice, our tradition —

"Out of respect for his family and friends," Mollene declares, nearly giggling at what's obvious. "We are showing that we care!"

Suddenly, too soon, the umbilicals are pulled away.

The new shift begins with the klaxon.

Due is sitting like everyone else, legs extended before him. He stares at me as if he has always been staring at me, yet he says another's name. "Tannie? Why do you think He wants us to wear these faces?"

The old woman is behind me, hiding behind others.

Quietly, with both conviction and genuine amazement, she says, "We look like the people...the people He can trust..."

"Why should that matter, Tannie?"

She stands slowly, regarding her own hands and saying, "I don't know why."

Still, always, Due stares at me.

"If someone is so glorious, so wondrous...why should He worry about the trust from such tiny things as us?"

No one speaks.

A Memory wagon is sliding past us, delivering its cargo to the growing

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mind. It's long and heavily armored, and a dozen Security troops sit in alert postures, front and aft, missing nothing as they gaze at the sky and at us.

So many troops, I'm thinking. Is this a new policy?

And if not, why have I never noticed them before?

"Have you learned anything about him?"

"About who?" asks the plant manager.

"My new expeditor," I remind her. "You were going to ask about his origins. Or did I misunderstand...?"

She acts indifferent, preoccupied.

"Nothing suspicious to find," she assures. "An uneventful manufacturing cycle. Designed for heavy labor in a memory plant, which is where he was being taken. And that's why he acts a little peculiar, I'm sure. Memory workers need different sorts of minds."

I want to feel sure, like she does. That's all I want.

"Here," she says, handing me the first order of the new shift. It looks like simple memory, but the red color means that it's a rush. I place the order against my forehead, the specifications flowing into me. I barely hear the plant manager warning, "We have to have it finished as soon as possible, or sooner.

"Questions?" she asks, wanting none.

I shake my head, then hesitate. "What about his face?"

"Whose face?"

"Due's. I don't recognize it." I notice something in her gaze, then ask, "Have you ever seen anyone with that face?"

A shrug, then a wistful grin.

"I wish more men wore it," she chimes. "Whoever's it is."

I deliver the rush order to my line, giving it to the feed crew who use it to program the bug oven. This particular bone is full of diamond and superconductive fibers, which is unusual. But not remarkable. What catches my eye is the pallet of barium ready to be fed into the oven. Why is it already here?

"He said we'd need it," my feed chief replies.

"Who said that?"

"Due."

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I shake my head, complaining, "I didn't have the order till now."

"I don't know. Maybe the boy heard something." The giant man scratches his broad round face, then adds, "Or maybe he's a good expeditor after all."

Old Nicka might have heard about the order, then told Due to bring the barium; I tell myself that's what must have happened. Starting down the line, I'm preoccupied, my eyes watching my naked toes. Suddenly someone is walking beside me, and I wheel and take a clumsy step backward, as does my companion. He has my shape, my face, but a rich golden color to his bare flesh. I stare into the gold-embossed oven, and the strangest notion occurs to me. Reflections are infinitely thin, and frail beyond measure. If I step away from the oven, my reflection dies. Which, I think, helps explain its desperate expression.

In the distance, loudly, a woman cries out, "No, no...!"

I blink a few times, then turn.

"Someone stop her...no, Tannie...!"

Mollene is screaming. I break into a run, finding her at her station, but Tannie missing. The big woman tugs at her false hair, looking up, and following her eyes, I find her partner sitting on the high catwalk, in a gap in the old railing. It takes forever to understand what Tannie is doing up there. It takes too long.

"Get her," Mollene begs me. "Save her, Jusk."

Without hope, I start up the zigzagging stairs. Tannie is already above the curing pond. Suicides are usually swift; she can jump fifty times before I'll reach her. Yet this isn't a normal suicide. She seems to be waiting for me, rocking nervously back and forth, the corundum mesh leaving its mark in her thin rump.

Glancing at me, the little woman manages an odd smile.

I stop short, asking, "Why are you even thinking this, Tannie? You've done nothing wrong."

"Haven't I?" The smile is enormous, and joyless. "Oh, Jusk...you can't understand what I'm thinking..."

The curing pond is directly below us, waiting for new bone.

"He's not what we think he is," she tells me. "He lies to us. All the time..."

"Who's that? Due?"

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She shivers, saying, "Not the expeditor, no."

"Then who — ?"

But I know who she means. Interrupting myself, I shake my head, telling her, "That's ridiculous. Stupid. How can you know that?"

"When that first bone went bad, and I touched it...I saw what's real..."

I want Tannie to jump. Now.

"I saw the Memories we aren't suppose to see." Her steady voice doesn't match her soft forlorn face. "The terrible things that He has done with his hands. The awful orders that He's made others carry out — "

"Shut up," I tell her.

"How else can he rule the world — ?"

"Tannie!" I shout. "You're talking about bone. Bone doesn't have memories. But you could easily, easily be insane. Have you thought that — ?"

A contemptuous look nearly slices me in two.

"Come here," I say, offering a hand. "I'll take you straight to Maintenance. We'll get you back to normal. Before our next shift...all right...?"

The odd smile returns. "That newborn's right about one thing."

"What's that, Tannie?"

"We exist for a purpose. We're supposed to protect the world."

I don't know what to say.

She sighs, rocking forward and gazing over the brink.

I move, not even thinking first. I drive suddenly with my legs and grab with both arms, trying to sweep up that little body before the insanity takes her.

My arms close on air.

Suddenly I'm lying on the corundum, watching Tannie shrink away, vanishing even before she strikes the pond. Then a furious storm of bubbles erupts, pulling what I can't see even further out of sight.

"Where's the newborn?"

Old Nicka looks up from a supply wagon's manifest, discounting me with a glance. Only when his face drops again does he say, "In the back. Counting."

The warehouse always feels enormous, mysterious. In that, nothing is new. What works on me is a powerful sense that I don't know where I

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am going, and when I make my next turn, I'll become lost. It has happened more than once. A worker loses his bearings, and the shift ends without him. Then the lost man is found dead in a nameless corner, starved of power and picked bare of mock-flesh by the relentless janitors.

I shout for Due; no one responds.

A whispering voice is counting. I follow its rhythm, coming upon him sitting behind a stockpile of assorted rare earths. His back is to me, long legs stretched out before him and a pair of giant diamond-hulled bugs balancing his hands. "One, two," he says. "One, two. One, two. One, two."

I stop short, and wait.

Due doesn't look at me. He simply pauses, regarding the bugs as he says, "I was told to count. I'm counting."

Even the back of his head is handsome.

"You want me?" he inquires.

I step closer, admitting, "Something awful has happened."

Due turns, finally. His gray eyes are warm, but their black centers radiate a withering heat. "Does it involve me?"

"No."

He seems surprised, if only for a moment.

"One of my line workers is dead. A bone handler...."

Eyes flicker. "That fat woman?"

"Her partner. Tannie."

I can't read any emotion. It's unfair to expect grief from newborns, but this face seems more than adult. It's almost ancient. I'm the newborn here, and how can I hope to outsmart this bizarre, supremely gifted monster?

"I need your help on the line," I tell him.

Again, the eyes flicker. "You want me to handle the bone — ?"

"Until we find another newborn."

"Who expedites?"

"No one," I promise. "You've delivered enough raw material to do the order, and we won't finish till the end of the shift."

A curt nod, then he rises, bugs glittering in his hands.

"What kind of bugs are those?" I ask.

"Five-gauge knitters," he lies, setting them on an obscure shelf.

I step back.

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"Besides," he comments, "if I'm working with you, you'll be able to keep your eyes on me. Right?"

I say nothing, knowing it isn't necessary.

THE NEW BONE is meant for His skull. That's why it's been reinforced with diamond, and that's why it carries superconductive fibers: This bone must protect His vast mind, and it needs to be porous to His great thoughts.

I watch that bone come out of the oven, pure white sheets punctuated with gray-black veins. Mollene is educating her new partner about how to check the product, then carry it. Grieving for Tannie, she makes no small talk. She doesn't flirt, much less try to seduce. And to her credit, when Due says something about the reinforced skull — "Why does someone so loved need so much protection?" — Mollene responds with a disinterested shrug and sharp words:

"Love drags other emotions along with it. Envy and jealousy, and worse...from what I can see...."

The belt carries the new bone down to the curing pond, and after its bath, it is hoisted into the air, cleaned and dried, then given a final measurement with lasers and eyes. Then the sheets are wrapped in aerogel and stacked. One hundred sheets at a time are inserted into armored boxes, then those boxes are sealed and loaded into a parked wagon. It's the third box that I have pulled aside, on my own authority. "Open it," I say. My packing crew obey. "Now pull out the top sheet," I tell them. They do it, but grudgingly. "Now, the next." Why? they ask. Not answering, I tell them to stack the second sheet on the first, just as they will lay in His skull. The superconductive materials are aligned, then the third sheet is added. And the fourth. My crew doesn't balk until the thirtieth sheet, but that's enough. I hope. Ignoring their complaints, I place my forehead against the gray-black material, and nothing happens. The electric surge coursing through me is my embarrassment. In front of everyone, I'm acting insane.

I start to rise, slowly.

And I pause.

Faint gray marks have been left on the edges of the bone sheets.

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Alone, they're senseless. But stacked together, they become a word. A faint but unmistakable signature. Jusk, I read. A hundred times.

I kneel down, pressing my forehead against my name.

Laughter blossoms behind me, then vanishes.

*Beneath a brilliant blue sky...people are running, shouting. And I'm running with them, more excited than afraid, trying to remember what is happening...what I'm doing here...*

*"...five times...with rocket slugs...!" His bodyguard steps up beside me, a tall, strong, and very pale man walking fast despite a gaping hole in his armor, a healing crater in his chest. I smell blood and pain killers on his breath, and smoke hangs thick in the air. "The assholes got past us. Not me, I mean...I did my job...." He hesitates, measuring his words. "Dropped two of those assholes myself. Took a round for Him, too. Just wish I could have taken more, of course...!"*

*"Of course," I mutter, my voice brittle. Unfamiliar to me.*

*"But He'll be all right. No problem." The bodyguard wobbles, then straightens himself. "How in hell did they get past us, sir?"*

*I shrug, not answering. Instead I ask my own question. "Who were they?"*

*"Don't know," he says. "Separatists, or free-thinkers, I'd guess...unless it's something closer to home...!"*

*From inside His own government, he means.*

*I say nothing.*

*"Out of our way!" the bodyguard shouts. "The deputy wants to see Him...!"*

*I am the deputy. Among the hundreds, perhaps thousands of grieving sycophants, I see the maintenance man who installed my new arms. And my feed crew chief. And Old Nicka, as well as a weepy, pain-wracked Tannie. Except these aren't the people whom I know, just as I'm not Jusk anymore.*

*"Look what they did to Him!" Tannie screams, in anguish. "How could they...?!"*

*The crowd parts for me — out of respect, and fear — and He is revealed. Five rounds punctured His defensive array and His body armor, entering His flesh, then exploding with a brutal force. The body has been shredded. Composite bone is scattered, useless. One round even*

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*managed to puncture His skull, the warhead shaping its blast to obliterate His soul. But what is intact is what startles me. Beneath the shredded brain is a bloody but whole face — Due's face — gray eyes opened to the blue sky, staring down Death itself.*

*The man with Old Nicka's face kneels, a hand pressed against my back. "Don't worry, sir," he mutters. "I've called for His full catalog. It'll be on site in two minutes."*

*The catalog is His memory, saved for emergencies.*

*"An hour, tops," he promises. "Then He'll be conscious again. In charge."*

*I nod, saying nothing.*

*"I wish we could have captured one of those assassins," he says, giving the bodyguard a reproachful glance. "Apparently they weren't using even the simplest nano-system. A pure suicide attack."*

*I reach for the corpse.*

*"You shouldn't, sir," says the bodyguard. "It might muddy up the healing cycle, if your little friends get mixed in with His..."*

*My hand stops short, then drops, touching a fragment of freshly killed bone.*

*Hopefully that will be enough....*

*"Sir," I hear. "Step on back, please. We've got to let him heal on his own, sir."*

*I rise, nodding.*

*And for the first time in years, I feel the smallest beginnings of hope....*

The plant manager invites me into her office. Set on a medium-high catwalk, it affords an impressive view of the entire plant. But all I can see is the stranger sitting behind her desk. He wears the bodyguard's face and body, and over his flesh is diamond mail of the sort used by Security troops. Suspicious eyes look at me, then move about the office. Even the most benign object seems worth a hard glare.

"You've been checking the bone," says the manager. She makes no attempt to introduce our guest. "Find anything?"

I shake my head. "No, nothing."

"Neither have we," says the bodyguard, or whatever he is. Then he

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grins, adding, "We don't need to unpack bone to make sure that it's all right."

I look at the manager. "What's going on?"

"Ask me," says the bodyguard.

I turn to him, saying nothing.

"You purchased a newborn. Due is his chosen name. Is that right?"

"Yes."

"And you're suspicious of him?"

I nod.

"There's no reason to be. He has a simple defect, something that happens on rare occasions." The lie is well-practiced, seamless. "He's responsible for some of your troubles, but they aren't very serious troubles. Believe me."

Even now, after everything, I want to believe him.

With a careful voice, I ask, "If you're familiar with the problem, why don't you just take him out of here?"

My manager says, "Jusk..."

"We are getting him. Don't worry." The bodyguard smiles, casually scratching his crotch. "I'm here as a formality. As I understand it, you've had several conversations with the newborn. Correct?"

"I am his boss — "

"The warehouse manager claims that you've spoken to Due at length. Do you remember the subjects?"

I hesitate.

The bodyguard's suspicions are focused squarely on me.

Through the crystal walls of the office, I can see my line stretching out below me. Due and Mollene are handling the latest bone, working together smoothly. Perfectly. The bodyguard's associates are stalking Due. They creep along the narrow aisles, each wearing diamond mail and carrying an electric saber. In a few moments, everything is going to end. Whatever everything is...

"Jusk?" says my manager, in pain. "Can you answer his question, please?"

I look at the bodyguard, and smile.

The ovens and belts stop in place and every light suddenly goes out, an instant of shocked silence followed by the rattling charge of janitors, and then, by hundreds of distant, white-hot screams.

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* * *

I bolt downstairs, pushing against the panicked flow of bodies.

A limping figure slams against me, and I know those pendulous breasts. "Where is he?" I shout at Mollene. "Where's Due?"

"Jusk...?" she squeals. "Are you all right?"

She isn't. The janitors have plucked the meat off one of her legs, then tried to take the leg, too. But all I can think about is my expeditor. "Is he with you? Did he say anything to you? What do you know...?"

Pressing her mouth to my ear, she says, "I'm tired, Jusk...so tired..."

I slip past her, reaching the floor just as the dim emergency lights come on. A single janitor is calmly dismantling one of the security troops. Simple eyes regard and dismiss me, then the machine returns to its task, removing another limb, inflicting careful misery on its victim.

An electric saber lies forgotten against a pallet.

It accepts my hand, which it shouldn't do. And it slices into the pallet on my first attempt, beads of pure calcium bouncing frantically across the diamond floor.

I run with the quickest beads, making for the back of the plant.

"Due," I call out. "Show yourself, Due!"

Silence.

When everything works normally, the warehouse is dimly lit. The indifferent glow of the emergency lights are nearly useless inside that cavernous place, accomplishing nothing but to make the shadows darker, more ominous.

Softer this time, I say, "Due."

Someone moves in the shadows.

"You're going to run out of tricks," I tell him, dropping my saber to my side. "Eventually Security is going to catch you and kill you, and what's accomplished? A single bone plant is a shift behind in its work, which is nothing. Some or most of its workers have to be replaced, but that won't take long. And He ends up being reborn just the same.

"Is that what you want, Due?"

In the blackest shadow, flesh brushes against a pallet.

I step closer, saying, "I'm sorry. That I stole you away from your mission. That I doubted what you were telling us. And now that I know better, I'm very, very sorry that He's going to live again...

"If there's anyway that I can help — "

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A figure charges out of the darkness, arms lifting what looks like an iridium hammer. Because it is a hammer, I realize finally. Then I look at the patched face, realizing that it's Old Nicka, not Due, and too late by a long ways, I start to lift my saber, backing up, my sputtering voice saying, "No, wait...!"

A sharp, clean noise comes from nowhere. Everywhere.

Old Nicka collapses at my feet, the hammer missing my head by nothing, then banging its way to the floor.

"You are mistaken," I hear. "But it's an easily forgiven mistake."

Due appears on my left, the handsome face offering a smile tinged with sadness. "I've never wanted Him to stay dead. Even if that was possible, it would be dangerous. There would be a terrible civil war afterward, then someone would replace Him. Who knows who? And would that person be a more benign leader? You can't tell me yes, Jusk, and you can't tell me no."

I nod, conceding the point.

"We're here to protect the world," he promises. "And the best way to do that is to rebuild Him, but improve Him, too. To give Him insights so far lacking in Him, and a spirit worthy of His station..."

With a flourish, Due hands me that pair of five-gauge knitters.

"But about the rest of it, you're right," he tells me. No more smiles, just sadness. "I'm about to be caught, and I'll be killed. Which leaves you with a debt to pay...."

He says. "The best of luck. Now, and always."

Due has already cut a hole in the back wall of the warehouse, and when I climb through, in an instant, I've left the only home that I've ever known.

The birth wagon waits.

Its driver wears Mollene's face and body, but her voice is different. Slower, more thoughtful. She tells me to climb into the back end, and whatever happens, I shouldn't talk. Then she climbs in after me and shuts the gate, hesitating briefly when the sound of fighting comes from the warehouse.

A bomb detonates somewhere close, shaking us.

The wagon drives itself, and this new Mollene gets me to lie on my back, then checks to make sure that I have both of the knitters.

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"What are these things supposed to do?" I inquire.

"When it's time, they'll explain themselves." Then she warns me firmly, "You must stay quiet."

I nod.

The woman has a knife with the thinnest of blades, and leaning over me, she says, "Now I need to remove your flesh. To make you look like a newborn again."

I nod again, compliant as a newborn.

More bombs detonate. We're a long way from the plant, but the blasts seem even larger than before. Erasing evidence as well as the Security troops.

With a practiced surety, the woman cuts at my legs.

Then, higher.

I can't help myself. I reach up with both hands, grabbing one of the enormous breasts, sucking on the brownish red nipple exactly as He must have done in His youth. Desperately. Gratefully. Wishing the moment will never end.

"Stop that," she tells me, pushing my face down again.

But I can't. I need the touch of flesh. Any flesh. So I grab hold of her again, and eventually she stops fighting me. I cling tight until nothing's left of Jusk but a shiny body and his familiar face, and even then I won't let go easily, sucking with a metal mouth when my fleshy one lies in the pile with the rest of the Scrap. ☙

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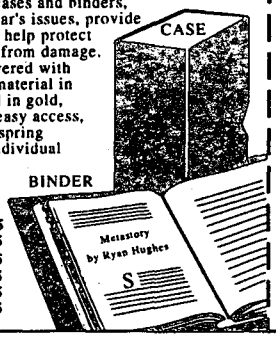


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*Big as it was, our October anniversary issue posed a challenge in fitting everything into a mere 320 pages. Regrettably, the story that follows was squeezed out...but in publishing it now, we can proudly say that Mr. Aldiss is in his sixth decade of spinning yarns for us. (His first* F&SF *story, in case you're curious, was "The New Father Christmas" back in January 1958.) Among his recent and forthcoming projects are his memoir,* The Twinkling of an Eye, *and a new novel written in collaboration with Roger Penrose,* White Mars.

*Of this new story, Brian notes that the seed was planted by reading Aldous Huxley's* Grey Eminence: *"I was struck—haunted, more like—by his description of Cardinal Richlieu's morbid delusions. 'In his spells of mental aberration,' says Huxley, 'the cardinal imagined himself to be a horse.'" Swift's Houyhnhnms then came to mind and set off the concatenation that produced this tale.*

# Steppenpferd

## By Brian W. Aldiss

FROM A COSMOLOGICAL perspective, the sun was a solitary, isolated on the fringes of its galaxy. The supergiant belonged in spectral class K5. Seen more closely, it appeared as a dull smoky globe, a candle about to gutter out, the smoke consisting of myriads of particles dancing in the solar magnetism.

Despite its size, it was a cold thing, registering no more than 3,600° K. All about its girth, stretching far out along the plane of the ecliptic, a series of artificial spheres moved in attendance. Each of these spheres contained captive solar systems.

The species which brought the globes here over vast distances called themselves the Pentivanashenii, a word that eons ago had meant "those who once grazed." This species had cannibalized their own planets and gone forth into the great matrix of space, returning to their home star only to deliver their prizes into orbit.

Father Erik Predjin walked out of the dormitory into the early light. In a short while, the monastery bell would toll and his twelve monks and

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as many novices would rise and go into the chapel for First Devotions. Until then, the little world of the island was his. Or rather, God's.

The low damp cold came through the birches at him. Father Predjin shivered inside his habit. He relished the bite of dawn. With slow steps, he skirted the stack of adzed timbers designated for the re-roofing, the piled stones with their numbers painted on which would eventually form part of the rebuilt apse. Ever and again, he looked up at the fabric of the old building to which, with God's guidance and his own will, he was restoring spiritual life.

The monastery was still in poor condition. Some of its foundations dated from the reign of Olav the Peaceful in the eleventh century. The main fabric was of later date, built when the Slav Wends had sought refuge on the island.

What Father Predjin most admired was the southern facade. The arched doorway was flanked by blind arcading with deeply stepped molded columns. These were weather-worn but intact.

"Here," Father Predjin often told the so-called tourists, "you may imagine the early monks trying to recreate the face of God in stone. He is grand, ready to allow entrance to all who come to him, but sometimes blind to our miseries. And by now perhaps the Almighty is worn down by the uncertain Earthly weather."

The tourists shuffled at this remark. Some looked upward, upward, where, hazily beyond the blue sky, the sweep of metal sphere could be seen.

The father felt some small extra contentment this morning. He made no attempt to account for it. Happiness was simply something that occurred in a well-regulated life. Of course, it was autumn, and he always liked autumn. Something about early autumn, when the leaves began to flee before a northern breeze and the days shortened, gave an extra edge to existence. One was more aware of the great spirit which informed the natural world.

A cock crowed, celebrating the morning's freshness.

He turned his broad back on the ochre-painted building and walked down toward the shore by the paved path he had helped the brothers build. Here, he made his way along by the edge of the water. This meeting of the

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two elements of land and water was celebrated by a cascade of stones and pebbles. They had been shed from the flanks of retreating glaciers. Those mighty grindstones had polished them so that they lay glistening in the morning light, displaying, for those who cared to look, a variety of colors and origins. No less than the monastery, they were proof for the faithful of a guiding hand.

A dead fish lay silvery among the cobbles, the slight lap of the waves of the lake giving it a slight lifelike movement. Even in death, it had beauty.

Walking steadily, the father approached a small jetty. An old wooden pier extended a few meters into Lake Mannsjo, dripping water into its dark reflection. To this pier workers would come and, later, another boat with extra-galactic tourists. Directly across the water, no more than a kilometer away, was the mainland and the small town of Mannjer, from which the boats would arrive. A gray slice of pollution spread in a wedge from above the town, cutting across the black inverted image of mountains.

The father studied the mountains and the roofs of the town. How cunningly they resembled the real thing which once had been. He crossed himself. At least this little island had been preserved, for what reason he could not determine. Perhaps the day would come when all returned to normal — if he persevered in prayer.

On the water margin of the island lay old oil drums and remains of military equipment. The island had, until five years ago, been commandeered by the military for their own purposes. Father Predjin had erased most of the reminders of that occupation, the graffiti in the chapel, the bullet holes in the walls, the shattered trees. He was slow to permit these last military remains to be cleared. Something told him the old rusty landing craft should remain where it was, half sunk in the waters of the lake. Now that it had ceased to function, it was not out of harmony with its surroundings. Besides, no harm was done in reminding both brothers and the alien visitors of past follies — and the present uncertain nature of the world. Of the world and, he added to himself, of the whole solar system, now encased in that enormous sphere and transported.... He knew not where.

*Somewhere far beyond the galaxy. But not beyond the reach of God?*

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He breathed deeply, pleased by the lap-lap-lap of the waters of the lake. He could look west from his little island — the Lord's and his — to what had been Norway and a distant railway line. He could look east to the mountains of what had been Sweden. Lake Mannsjo lay across the border between the two countries. Indeed, the imaginary line of the border, as projected by rulers plied in Oslo and Stockholm ministerial offices, cut across the Isle of Mannsjo and, indeed, right through the old monastery itself. Hence its long occupation by the military, when territorial opinions had differed and the two Scandinavian countries had been at loggerheads.

*Why had they quarreled? Why had they not imagined...well...the unimaginable?*

HE KNEW the skimpy silver birches growing among the stones on the shore, knew one from the next: was amused to think of some as Norwegian, some as Swedish. He touched them as he went by. The mist-moistened papery bark was pleasing to his hand.

Now that the military had left, the only invaders of Mannsjo were those tourists. Father Predjin had to pretend to encourage their visits. A small boat brought them over, a boat which left Mannjer on the mainland promptly every summer morning, five days a week, and permitted the beings two hours ashore. In that time, the tourists were free to wander or pretend to worship. And the novices, selling them food and drink and crucifixes, made a little money to help with the restoration fund.

The father watched the boat coming across the water and the grotesque horse-like beings slowly taking on human shape and affecting human clothing.

August was fading from the calendar. Soon there would be no more tourists. Mannsjo was less than five degrees south of the Arctic Circle. No tourists came in the long dark winter. They copied everything that had once been, including behavior.

"I shall not miss them," said the father, under his breath, looking toward the distant shore. "We shall work through the winter as if nothing has happened." He recognized that he would miss women visitors espe-

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cially. Although he had taken the vow of chastity many years previously, God still permitted him to rejoice at the sight of young women, their flowing hair, their figures, their long legs, the sound of their voices. Not one of the order — not even pretty young novice Sankal — could match the qualities of women. Antelope qualities. But of course an illusion; in reality there were seven black ungainly limbs behind every deceiving pair of neat legs.

The beings entered his mind. He knew it. Sometimes he sensed them there, like mice behind the paneling of his room.

He turned his face toward the east, closing his eyes to drink in the light. His countenance was lean and tanned. It was the face of a serious man who liked to laugh. His eyes were generally a gray-blue, and the scrutiny he turned on his fellow men was enquiring but friendly: perhaps more enquiring than open: like shelves of books in a library, whose spines promise much but reveal little of their contents. It had been said by those with whom Father Predjin had negotiated for the purchase of the island that he confided in no one, probably not even his God.

His black hair, as yet no more than flecked by gray, was cut in pudding basin fashion. He was clean-shaven. About his lips played a sort of genial determination; his general demeanor also suggested determination. In his unself-conscious way, Erik Predjin did not realize how greatly his good looks had eased his way through life, rendering that determination less frequently exercised than would otherwise have been the case.

He thought of a woman's face he had once known, asking himself, Why were not men happier? Had not men and women been set on Earth to make one another happy? Was it because humanity had failed in some dramatic way that this extraordinary swarm of beings had descended, to wipe out almost everything once regarded as permanent?

How is it that the world was so full of sin that it was necessary to destroy it? Now those who sequestered themselves on Mannsjo would continue to do Him reverence. Attempt in their frailty to do Him reverence. To save the world and restore it to what once it was, and make it whole and happy again. "Without sin."

Cobbles crunched under his sandals. Hugging his body against the

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cold, he turned away from the water, up another path which climbed round a giant boulder. Here in a sheltered dell, hens clucked. Here were gardens where the Order grew vegetables — potatoes especially — and herbs, and kept bees. All barely enough to sustain the company, but the Almighty approved of frugality. As the father walked among them, casting an expert gaze over the crops, the monastery bell started to toll. Without quickening his pace, he went on, under the apple trees, to his newly repaired church.

He said aloud as he went, clasping his hands together, "Thank you, O Lord, for another of your wonderful days through which we may live. And bless my fellow workers, that they also may taste your joy."

After the morning prayers came breakfast. Homemade bread, fish fresh from the lake, well water. Enough to fill the belly.

Shortly after ten in the morning, Father Predjin and two of the brothers went down to the quay to meet the morning boat bringing the workers from Mannjer. The workers were voluntary labor. They appeared to include not only Scandinavians but men, mainly young, from other parts of Europe, together with a Japanese who had come to visit Mannsjo as a tourist two years ago and had stayed. While he was awaiting novitiate status, he lodged in Mannjer with a crippled woman.

Oh, they all had their stories. But he had seen them from his window, when they thought no one was looking, revert into that lumpish shape with those great trailing hands, seven-fingered, gray in color.

This was the father's secret: since he knew that these beings were asymmetrical, and not symmetrical, or nearly so, as were human beings, he understood that God had turned his countenance from them. In consequence, they were evil.

The monks welcomed the fake workers and blessed them. They were then directed to the tasks of the day. Few needed much instruction. Plasterers, carpenters, and stone masons carried on as previously.

*Should I allow such alien and god-hating beings to participate in the construction of God's edifice? Will He curse us all for permitting this error?*

Now a little urgency was added to the workers' usual businesslike manner; winter was coming. Over the drum of the main dome an almost

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flat tiled roof was being installed, closing it against the elements. There was no money at present for a copper-clad dome it was hoped for, provided funds were forthcoming.

When the father had seen that all were employed, he returned to the main building and climbed a twisting stair to his office on the third floor

It was a narrow room, lit by two round windows and furnished with little more than an old worm-eaten desk and a couple of rickety chairs. A Crucifix hung on the whitewashed wall behind the desk.

One of the novices came up to talk to Father Predjin about the question of heating in the winter. The problem arose every year at this time. As usual it remained unresolved.

Immediately next came Sankal. He must have been waiting on the stairs outside the door.

His Father gestured to him to take a seat, but the young man preferred to stand.

Sankal stood twisting his hands about his rough-woven habit, shy as ever but with the air of a young man who has something important to say and looks only for an opening.

"You wish to leave the order?" Father Predjin said, laughing to show he was joking and merely offering the chance for a response.

Julius Sankal was a pale and pretty youth with down on his upper lip. Like many of the other novices in Mannsjo, he had been given refuge by Predjin because the rest of the globe was disappearing.

In those days, Predjin had stood by his church and looked up at the night sky, to see the stars disappear as the sphere encased them bit by bit. And, as surely, the world was disappearing, bit by bit, to be replaced by a cheap replica — perhaps a replica without mass, to facilitate transport. Such things could only be speculated upon, with a burdened sense of one's ignorance and fear.

Sankal had arrived at Mannjer in the snow. And later had stolen a boat in order to cross to the island, to throw himself on the mercy of the ruinous monastery, and of its master. Now he had the job of baking the monastery's bread.

"Perhaps it is necessary I leave," the youth said. He stood with downcast eyes. Father Predjin waited, hands resting, lightly clasped, on the scarred top of his desk. "You see...I cannot explain. I am come to a

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wrong belief, father. Very much have I prayed, but I am come to a wrong belief."

"As you are aware, Julius, you are permitted to hold any one of a number of religious beliefs here. The first important thing is to believe in a God, until you come to see the true God. Thus we light a tiny light in a world utterly lost and full of darkness. If you leave you go into a damned world of illusion."

The sound of hammering echoed from above them. New beams were going into the roof of the apse.

The noise almost drowned Sankal's response, which came quietly but firmly.

"Father, I am shy person, you know it. Yet am I at maturity. Always have many inward thoughts. Now those thoughts move like a stream to this wrong belief." He hung his head.

Predjin stood, so that he dominated the youth. His expression was grave and sympathetic. "Look at me, son, and do not be ashamed. All our lives are filled with such hammering as we hear now. It is the sound of an enormous material world breaking in on us. We must not heed it. This wrong belief must make you miserable."

"Father, I have respects for your theology. But maybe what is wrong belief is right for me. No, I mean...Is hard to say it. To arrive at a clear belief — it's good, is it? — even if the belief is wrong. Then maybe is not wrong after all. Is instead good."

With the merest hint of impatience, Father Predjin said, "I don't understand your reasoning, Julius. Can we not pull out this wrong belief from your mind, like a rotten tooth?"

Sankal looked up at his mentor defiantly. He showed clenched fists, white-knuckled above the desk.

"My belief is that this island has not been maked — *made* by God. It also is an illusion, made by God's terrible Adversary."

"That's nothing more than non-belief."

It came out defiantly: "No, no. I believe the Evil Ones made our place where we live. Our goodness itself is an illusion. I have proof it is so."

Thinking deeply before he replied, Father Predjin said, "Let us suppose for an instant that we are living on an island made by these frightful beings who now possess the solar system, so that all is illusion.

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But yet Goodness is not an illusion. Goodness is never an illusion, wherever found. Evil is the illusion..."

Even as he spoke, he imagined he saw something furtive and evil in the eyes of the youth standing before him.

Father Predjin studied Sankal carefully before asking, "And have you come suddenly to your conclusion?"

"Yes. No. I realize I have always felt like this way. I just did not know it. I've always been running, have I? Only coming here — well, you gave me time for thinking. I realize the world is evil, and it gets worse. Because the Devil rules it. We always spoke of the devil in our family. Well, now he has come in this horse-like shape to overwhelm us."

"What is this proof you speak of?"

Sankal jumped up, to face the father angrily. "It's in me, in the scars on my mind and on my body since I am a boy. The Devil does not have to knock to come in. He is inside already."

After a pause, the father sat down again, and crossed himself. He said, "You must be very unhappy to believe such a thing. That is not belief as we understand it, but sickness. Sit down, Julius, and let me tell you something. For if you seriously believe what you say, then you must leave us. Your home will be in the world of illusion."

"I know that." The youth looked defiant, but seated himself on the rickety chair. The hammering above continued.

"I was just discussing with someone how we were going to keep warm in the coming winter," the father said, conversationally. "When first I arrived on the island with two companions, we managed somehow to survive the long winter. This building was then in a terrible condition, with half the roof missing. We had no electricity and could not have afforded it had it been available.

"We burnt logs, which we chopped from fallen trees. Mannsjo was then more wooded than now it is. We lived virtually in two rooms on the ground floor. We lived off fish and little else. Occasionally, the kind people of Mannjer would skate across the ice to bring us warm clothes, bread, and aquavit. Otherwise, we prayed and we worked and we fasted.

"Those were happy days. God was with us. He rejoices in scarcity.

"As the years have passed, we have become more sophisticated. At first we made do with candles. Then with oil lamps and oil heaters. We are

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now reconnected to the electricity supply from Mannjer. Somehow it still works. Now we have to prepare for a longer darker winter, the winter of Unbelief."

"I do not understand what you hope for," Sankal said. "This little piece of the past is lost somewhere outside the galaxy, where God — where your God has never been heard of."

"They hear of him now. " The priest spoke very firmly. "The so-called tourists hear of him. The so-called workers labor on his behalf. As long as the evil does not enter into us, we do the Lord's work, wherever in the universe we happen to be."

Sankal gave a shrug. He looked over one shoulder. "The Devil can get to you, because he owns all — every things in the world he made."

"You will make yourself ill believing that. Such beliefs were once held by the Cathars and Bogomils. They perished. What I am trying to tell you is that it is easy to mistake the danger we are in — the more than mortal danger — for the work of the Devil. There is no Devil. There is merely a desertion of God, which in itself is extremely painful in many spiritual ways. You are missing God's peace."

From under his brows, Sankal shot Predjin a look of mischievous hatred. "I certainly am! So I wish to leave."

The hammering above them ceased. They heard the footsteps of the workers overhead.

Father Predjin cleared his throat. "Julius, there is evil in men, in all of us, yes."

Sankal's shouted interruption: "And in the horse-devils who did such a thing in the world!"

The priest flinched but continued. "We must regard what has happened to be part of God's strategy of free will. We can still choose between good and evil. We have the gift of life, however hard that life may be, and in it we must choose. If you go from here, you cannot come back."

They looked at each other across the wormy old desk. Outside, beyond the round windows, a watery sun had risen from behind the eastern mountains.

"I want you to stay and help us in the struggle, Julian," the father said. "For your sake. We can get another baker. Another soul is a different matter."

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Again Sankal gave a cunning look askance.

"Are you afraid my hideous belief will spread among the other people in the monastery?"

"Oh yes," said Father Predjin. "Yes, I am. Leprosy is contagious."

WHEN THE YOUTH had left, almost before his footsteps had faded from the winding wooden stair, Father Predjin hitched up his cassock and planted his knees on the worn boards of the floor. He clasped his hands together. He bowed his head.

Now there was no sound, the workmen having finished their hammering, except for a tiny flutter such as a heart might make; a butterfly flew against a window pane, unable to comprehend what held it back from freedom.

The father repeated a prayer mantra until his consciousness stilled and sank away into the depths of a greater mind. His lips ceased to move. Gradually, the scripts appeared, curling, uncurling, twisting about themselves in a three dimensional Sanskrit. There was about this lettering a sense of benediction, as if the messages they conveyed were ones of good will; but in no way could the messages be interpreted, unless they were themselves the message, saying that life is a gift and an obligation, but containing a further meaning which must remain forever elusive.

The scripts were in a color, as they writhed and elaborated themselves, like gold, and often appeared indistinct against a sandy background.

With cerebral activity almost dormant, there was no way in which intelligence could be focused on any kind of interpretation. Nor could a finite judgment be arrived at. Labyrinthine changes taking place continually would have defied such attempts. For the scripts turned on themselves like snakes, now forming a kind of *tugra* upon the vellum of neural vacancy. Ascenders rose upward, creating panels across which tails wavered back and forth, creating within them polychrome branches or tuft-like abstractions from twigs of amaranth.

The elaboration continued. Color increased. Large loops created a complex motorway of lettering, and filled themselves with two contrasting

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arrangements of superimposed spiral scrolls in lapis blue with carmine accents. The entanglement spread, orderly in its growth and replication.

Now the entire design, which seemed to stretch infinitely, was either receding or pressing closer, transforming into a musical noise. That noise became more random, more like the flutter of wings against glass. As the scripts faded, as consciousness became a slowly inflowing tide, the fluttering took on a more sinister tone.

Soon — intolerably soon — breaking the mood of transcendent calm — the fluttering was a thundering of inscrutable nature. It was like a sound of hooves, as though a large animal was attempting clumsily to mount impossible stairs. Blundering — but brutishly set upon success.

Father Predjin came to himself. Time had passed. Cloud obscured the sky in the pupil-less eye of the round window. The butterfly lay exhausted on the sill. Still the infernal noise continued. It was as if a stallion was endeavoring to climb the wooden twisting stair from below.

He rose to his feet. "Sankal?" he asked, in a whisper.

The father ran to the door and set his back against it, clenching the skin of his cheeks back in terror, exposing his two rows of teeth.

Sweat burst like tears from his brow.

"Save me, sweet heavenly Father, save me, damn you! I'm all you've got!"

Still the great beast came on, the full power of Pentivanashenii behind it.

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# CURIOSITIES

## *SANNIKOV LAND,* BY VLADIMIR OBRUCHEV (1926)

IF YOU like lost world novels, I guarantee that this obscure Russian classic will press all your buttons. There are encounters with prehistoric megafauna, beautiful and willing savage women, war between stone-age tribes, weird shamanistic rites, earthquakes and volcanic eruptions, and a boy's own enthusiasm for bagging big game. It's true that the characters are indistinguishably wooden mouthpieces for the author's opinions, and the plot is pure pulp, but these faults are redeemed by the novel's rigorous scientific sensibility.

Obruchev was a geologist and academician, high in the former USSR's scientific hierarchy. His descriptions of the harsh beauty of the Russian Arctic Circle, and of the privations experienced by his explorers, are crammed with telling detail; given the abundance of frozen mammoths in Siberia, one suspects that he may have been drawing on experience when recommending roast mammoth trunk as a particular delicacy. There are lyrical infodumps about geology and prehistoric fauna; the lost land, nestled in a vast Arctic volcano, is drawn with evocative verisimilitude.

*Sannikov Land* has been long out of print — the edition I have is an English translation published in 1955 by the Foreign Languages Publishing Association of Moscow — and as one of a series of "Soviet Literature for Young People," it was a small part of the former USSR's Cold War arsenal. When it was published, it was probably *illegal* to own it in the U.S.A., so it will be hard to find.

But believe me, the search will be worthwhile. I'm off to look for Obruchev's other scientific romance, *Plutonia.* It's a hollow-earth story, and I can't wait to read it.

—Paul J. McAuley

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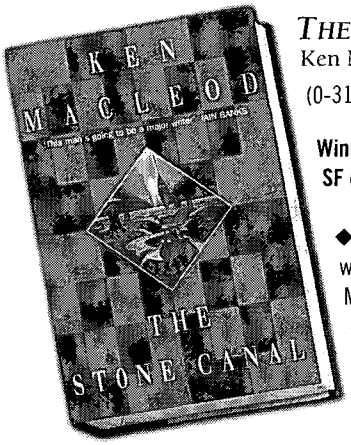


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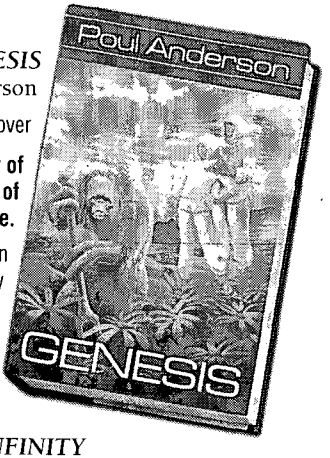


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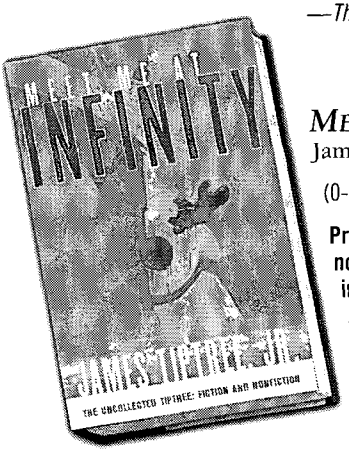


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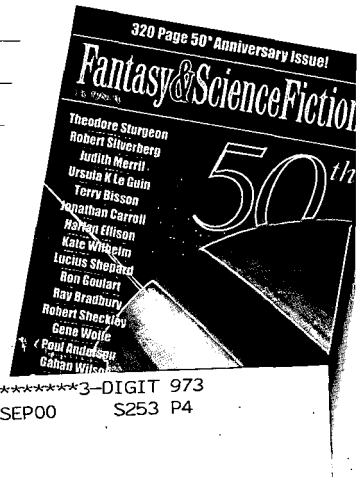


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